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ILLUSTRATIONS.

Glasgow Architecture :—

The Town Hall.—(Mr. W. Young) ..... *Double-Page Ink-Photo.*

The Athenæum.—(Mr. J. J. Burnet) ..... *Two Single-Page Ink-Photos.*

Barony Church (Mr. J. J. Burnet); Camp Hill Church (Mr. W. Leiper); St. Vincent U.P. Church (the late A. Thomson) Wellington-road U.P. Church (Mr. T. L. Watson); Free College Church (the late C. H. Wilson); Queen's Park Established Church (Messrs. Campbell Douglas & Sellars) ..... *Double-Page Ink-Photo.*

The University (the late Sir G. Scott); Western Infirmary (Mr. John Burnet); National Bank of Scotland; Central Station (Dr. Rowand Anderson) ..... *Double-Page Ink-Photo.*

Chambers, St. Vincent-street (Messrs. F. Burnet & Boston); Carpet Factory (Mr. W. Leiper); *Citizen* Buildings (Mr. T. L. Watson); *Sun* Buildings (Mr. W. Leiper) ..... *Double-Page Ink-Photo.*

Blocks in Text.

Glasgow Architecture :—

New Club ..... Page 22

The *Herald* Buildings ..... „ 23

The Corn Exchange ..... „ 24

Bank of Scotland Buildings ..... „ 25

Bargemen's Institute ..... „ 26

Portions of the Old University Reused on the Park Entrance Lodge Page 26

Business Premises ..... „ 27

The School Board of Glasgow ..... „ 28

The Infirmary ..... „ 28

Street Front ..... „ 29

Scottish Temperance League Building ..... „ 30

Cast-iron Mantel modelled by Alfred Stevens ..... Page 33

CONTENTS.

The Architecture of Our Large Provincial Towns.—XVI.—Glasgow 21

Notes 0

The Guildhall Loan Exhibition 32

The Architectural Association Summer Visits: Hever Castle 32

Cast-iron Mantel modelled by Alfred Stevens 33

Magazines and Reviews 33

Illustrations of Glasgow Architecture 34

Competitions 34

Architectural Societies 34

Archæological Societies 34

The Association of Municipal and County Engineers 34

The London County Council 37

Lancashire and Cheshire Building Trades Employers' Federation 38

Applications under the 1894 London Building Act 38

New Directories 39

Books Received 39

Tudor-street Ancient Light Case 39

Libraries of the Middle Ages 39

The Students' Column: Sound, Light, and Heat.—II. 39

General Building News 40

Stained Glass and Decoration 42

Foreign 42

Miscellaneous 42

Capital and Labour 43

Legal 43

Meetings 44

Recent Patents 44

Some Recent Sales of Property 44

Prices Current of Materials 47

The Architecture of Our Large Provincial Towns.

XVI.—GLASGOW.

GLASGOW is often spoken of as a "dirty manufacturing town," with the implication that it has little or no architectural interest, and that its generally unattractive appearance is not noticeably mitigated by the energetic enterprise of what every one acknowledges to be a model municipal government. It is, however, far from so impressing an unprejudiced visitor, who finds, in the large central and west central districts, broad straight streets, laid out with great regularity, and bordered by handsome buildings, in the production of which neither architectural skill nor money have been lacking. Even some of those districts that are given up to factories and workmen's dwellings have the substantial air conferred by the use of stone, and are less dismally depressing than their brick-built counterparts in the English Midlands. Nor is Glasgow, though its past is altogether overshadowed by its present, without a history. The figures of Roman conquerors and even of St. Mungo or Kentigern are, no doubt, indistinct enough; but the existence, before the end of the twelfth century, of the cathedral, and of charters for the holding of a market and an annual fair, and the establishment of the University in the fifteenth century, are historic facts which show that the place was a considerable one even in those days. The site of the mediæval town is, indeed, one that must have early invited settlement; easily defensible, close to an important river, and overlooking the gentle slope, with its southern aspect, now covered by the business quarter of the city, but then valuable for cultivation, it must have at once recommended itself to the first comers capable of appreciating its advantages. It was, however, only after the establishment of the university that the place began to be of real importance, and not until nearly the end of the seventeenth century that the tide of commercial prosperity began to rise which has lifted it into the position of second city in the Empire. It now covers, with its suburbs, an area of nearly six miles long, and four and a half miles wide, and contains within that area about three-quarters of a million of inhabitants. The architecture of the modern city may be described in general terms as traditionally scholarly, cold and severe, founded exclusively on the Classic and Italian Renaissance styles, and entirely uninfluenced in the main by either Gothic work or the remains of the beautiful Scottish Renaissance. The severity of aspect is doubtless enhanced by the coldness of the grey stone with which, until recently, all important buildings were faced; and it is also, no doubt, a recognition of this fact which has made an apparently newly-discovered red sandstone so popular that it is being used almost to the exclusion of the other at the present time. In many cases one could wish that such a change of material were the only, or at any rate the chief, one; but here, as elsewhere in the Kingdom, there is an attempt on the part of architects to escape in all directions as far as possible from the leading strings of tradition; and though, no doubt, those few who have something to say succeed in being very interesting, it is among the refined classicism of such a city as this that the weakness of the average designer, when he attempts to run alone, becomes most distressingly apparent.

In considering the architecture of Glasgow in detail, the new municipal buildings, erected by Mr. William Young, as the result of a competition in which more than a hundred architects took part, naturally come first. This enormous edifice, which stands at the east end of George-square, in the north-east part of the central district, occupies the whole of one of the almost square blocks into which this part of the city is cut up. It is of four stories, built round a small court-yard, and each of its four façades measures, roughly speaking, about 240 ft. in length. At each corner there is a well-proportioned pavilion surmounted by a dome, and behind the broad western pediment rises a substantial looking tower, a clever paraphrase of that of the U.P. church in St. Vincent-street, which makes a satisfactory centre to a simple and dignified group. The architectural arrangement of the stories is also well managed, the two lower ones containing the offices being included in a high basement that gives prominence to the principal floor on which the council and committee rooms, the reception rooms, banqueting hall, and so on, are situated. Of the four fronts, that to the north seems to us the most satisfactory, no doubt because the internal arrangements permitted the use in this part of one large order, instead of the two superimposed smaller ones that are carried round the rest. The architectural details are those of the Italian Renaissance, but it does not seem to us that either they or some of the incidental sculpture are quite worthy of the occasion; they are no doubt respectable, but they are certainly not interesting, nor do they everywhere show much appreciation of the smaller refinements of which such detail is capable. Internally the more public parts are extremely richly finished. The two spacious main staircases, from the top story to the bottom, are of marble, with balustrades, arcades, and panelled wall linings of marble and alabaster, and vaults and ceilings of modelled plaster richly gilded. For richness of effect there is probably nothing to surpass them in the country. The floors of the public corridors, halls, and landings are laid with ceramic mosaic, which is beautiful enough, though it lacks the softness of marble;

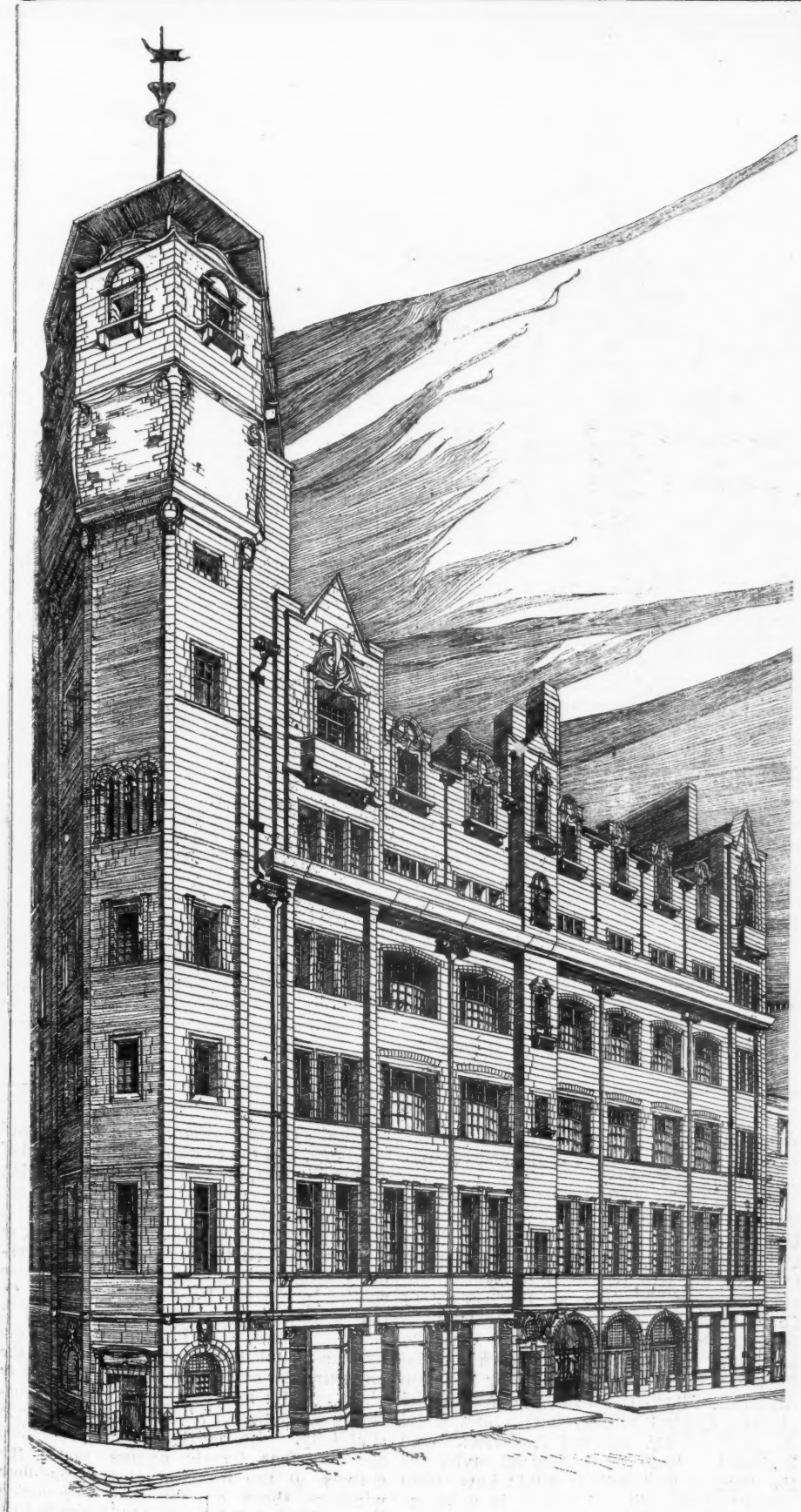
and the domes and vaults of the entrance-hall are decorated with the same material in a manner imitative of Roman painted ceiling decoration. The great banqueting hall still lacks the paintings with which, no doubt, it is intended to ornament the panels on the walls, and, though the ceiling and architectural details are richly gilded, has a somewhat bare appearance. The council, committee, and reception rooms, on the other hand, are finished with panelling, very richly moulded and carved in various fancy woods, and have an eminently luxurious aspect. There are a few good paintings in one of the reception rooms, but mostly such things have still to come.

Facing the municipal buildings on the north is the Inland Revenue Office, and flanking it on the south the General Post Office, both of them respectable examples of the Italian Renaissance style, the latter having in its upper stories a certain breadth and dignity. The block on the west side of the square is in a similar style and rather more interesting; the tower at its north end especially is good in proportion and outline and an effective feature. It is time that the hotels facing the square on the north were rebuilt; their shabby appearance is not creditable. The centre of the open space is occupied by a statue of Sir Walter Scott "mastheaded" on a Doric column that stands on a very effectively designed pedestal; and there are no less than eleven other statues in the square, the best of which is perhaps that of Lord Clyde. Passing to the east along George-street, one notes, at the first turning on the left, St. Paul's parish church, a small building with a Grecian-Ionic portico and well-proportioned turret, and a few paces further on Anderson's College, a neat little two-storied edifice in the Adam style, almost opposite to which is a Gothic church with a many-pinnacled spire, of the architecture of which the less said the better. Beyond this is the unfinished red sandstone front of a tobacco factory, on which it is difficult at present to express an opinion. It will be nearly all glass, but the designer has attempted to give it architectural character by means of flanking turrets and rather elongated and superfluous-looking three-quarter columns, planted on the face of the piers. At the corner of Montrose and Cochrane streets are the City Sanitary Offices, designed in what may be called the fashionable rusticated style, which by its effective depth and richness seems to justify the choice of those who support the fashion; and further west, at the corner of John-street, a curious church with a range of heavy Roman Ionic columns forming the mullions of what may be called one vast window. Then, after passing George-square and the handsome and refined Bank of Scotland (by Mr. Rockhead), in St. Vincent-place, one comes to the new red stone lofty front of the *Citizen* newspaper offices, a fairly effective, rather ornate, Dutch Renaissance design, by Mr. T. L. Watson, with two steep-stepped gables surmounting a story of deeply recessed eliptical arches and flanked by an octagonal turret; and, next to it, the older and rather more sober front of the Clydesdale Bank (the late James Sellars), with its super-imposed orders and arched and rusticated basement. Opposite to the latter is the more recent front of the Scottish Amicable Assurance Society; and, at the corner of Buchanan-street, the Western Club, both of them, as regards architecture, in the Italian Renaissance style and of respectable quality. It is, however, impossible to merely enumerate all such buildings; for the better quarters are full of them. One must pass on along St. Vincent-street to the corner of Hope-street, where the lofty premises called Norwich Union Chambers (Mr. Hutchison) arrest attention by the newness of their red stone fronts, their steep gables, and their circular angle tower; with the exception of the gables, which are much broken up, they are, however, very plain and not especially remarkable in any way.

New Club. (Messrs. Campbell Douglas & Sellars.)

Almost opposite to them is a branch of the Commercial Bank of Scotland, with a new front of three bays, flanked by narrow pilaster strips and surmounted by a rather curly gable. After this there is nothing very noticeable in St. Vincent-street before the celebrated U.P. church, designed by the late Alexander Thomson (Greek Thomson), is reached. It is a curious, heavy-looking structure, very effectively placed at the angle of two streets on the side of a steep hill. Externally the building appears to consist of a cella with hexastyle Ionic porticos at the ends and low flat-roofed aisles, all mounted on a lofty podium, on an extension of which stands also the tower, a plain square banded stalk with a very marked entasis, surmounted by a lantern which may be described as consisting of four doorways and a sort of drawn-out, egg-shaped, dome. The details throughout are scholarly, and it is evident that a vast amount of thought and skill must have been expended in welding them into a satisfactory whole, for the result certainly is satisfactory in its way.

Returning by the prosperous-looking West George-street and the New Club (illustrated above) towards the centre of the city, one comes, at the corner of Renfield-street, to a group of several large new blocks of offices, the best of which, architecturally, is that occupied by the "Sun" Insurance Company, and designed by Mr. Wm. Leiper. It is a six-story building with several gables, or rather large dormers, on the fronts, and a large, slightly corbelled-out, octagonal angle tower with a dome covered with green slates and surmounted by a small lantern; the details are in the François I. style, and used with knowledge and discretion. Then, in St. George's-place is the not very handsome St. George's church (Mr. Stark), the tower of which is, however, picturesque in outline and a conspicuous feature, terminating the view along the street in both directions. In the rear of the church is the Faculty Hall, an excellent piece of work by the late C. H. Wilson; and to the south of it, at the corner of Buchanan-street, there is a block of offices in the heavy early French Gothic style, at one time popular, and a fair example of its class, one of the very few in Glasgow. The two-story front of the Athenæum building, which faces the church on the north (by Mr. J. J. Burnet, A.R.S.A.) is broad and simple—beautifully grouped and proportioned, and altogether the most pleasing design yet noticed, but less pleasing than the other and very different front to the same building, by the same architect, in Buchanan-street (see lithograph illustrations); a high, narrow-gabled façade of five stories flanked by a tower. While in the former case the lines are mainly horizontal, in this they are altogether vertical, and it will be extremely interesting to see how the two



The Herald Buildings. (Messrs. Honeyman & Keppie.)

fronts are to be harmoniously connected when the intervening buildings are pulled down to make way for an extension of the Athenæum, as we understand they are destined eventually to be. The only other building to be noted in West George-street is the simple Roman Doric portico of the North British Railway Office.

Lower down Buchanan-street there are, on the left, the Royal Insurance Buildings, and, on the right, the head office of the Commercial Bank of Scotland, new buildings, somewhat alike in the freedom with which their Renaissance details are treated, in their octagonal angle towers, and in the attempt to obtain effect by means of a series of small openings in the top story; the larger scale of its parts, however, gives to the Bank—a design by Messrs. Mitchell & Wilson—a considerable advantage. It adjoins in Gordon-street the older building of the English and Scottish Law Life Office, an effective example of the more orthodox Florentine Renaissance. The pretty little gabled front of some tea-rooms lower down Buchanan-street was, we believe, designed by Mr. G. Washington Browne; it is charmingly detailed in a very refined manner, and the two-storied oriel over the door is an exceedingly picturesque feature, notwithstanding its ugly shaped pediment. Beyond this, on the other side of the way, a striking and ambitious red structure rears its stepped gable above the adjacent roofs; it consists of a series of three-storied bay windows set in arched recesses under a balustrade which projects over them in ogee curves: the head of the arch facing the main street is flanked by a pair of female figures under projecting canopies, and this front would probably strike one very favourably but for the ugly and heavy hood over the window in the gable. The offices of the *Herald* newspaper opposite, designed by the late Jas. Sellars, are worthy of note, if only to contrast their correct classicism and wealth of detail with the curious, plain, but interesting building just erected for the same paper in Mitchell-street by Messrs. Honeyman & Keppie, in the very latest, entirely original, style, with big simple mouldings, long flat curves, and a heavy angle tower surmounted by an ogee roof so flat that hardly more than the edge is visible from anywhere in the immediate neighbourhood. There are one or two other new buildings in Buchanan-street, but nothing of note architecturally.

The great mass of the St. Enoch railway station is a Gothic revival effort that one can no longer sympathise with; considered a success in its day, its pointed segmental arches and heavy mock machicolations now seem the acme of ugliness; possibly five-and-twenty years hence the same may be said of the architectural fashions of to-day; but meanwhile one need not fear to praise the delightful little François I. subway station in the square: it is only a doll's house beside its big neighbour, but it is simply charming. The old parish church behind it is a plain building, with a Grecian Ionic portico, and a very well designed, though rather thin, steeple.

The National Bank in Queen-street, by Mr. Gibson, is a little two-storied edifice in the Roman Renaissance style of exceptional merit and thoroughly well studied in every detail. The same may be said of the more important Royal Exchange by the late Mr. Hamilton in the same street, a building partly of two and partly of three stories, but with a single large Corinthian order on three sides, very cleverly treated, and a deep portico with a still larger order and broad pediment in front. The unnecessary turret, good as it is in itself, rather takes away from the dignity of the edifice, but it at least serves to hide from Ingram-street some of the ugly network of telegraph poles and wires that covers the roof. In front of the Exchange is a good equestrian statue of Wellington, and behind it the Ionic portico of the Bank of Scotland, flanked by two well-designed archways which give access to Buchanan-street. On either side, too, of Exchange-square care has been taken to support the main edifice by well-designed and harmonious buildings, in a manner too rarely accomplished or even attempted in this country.

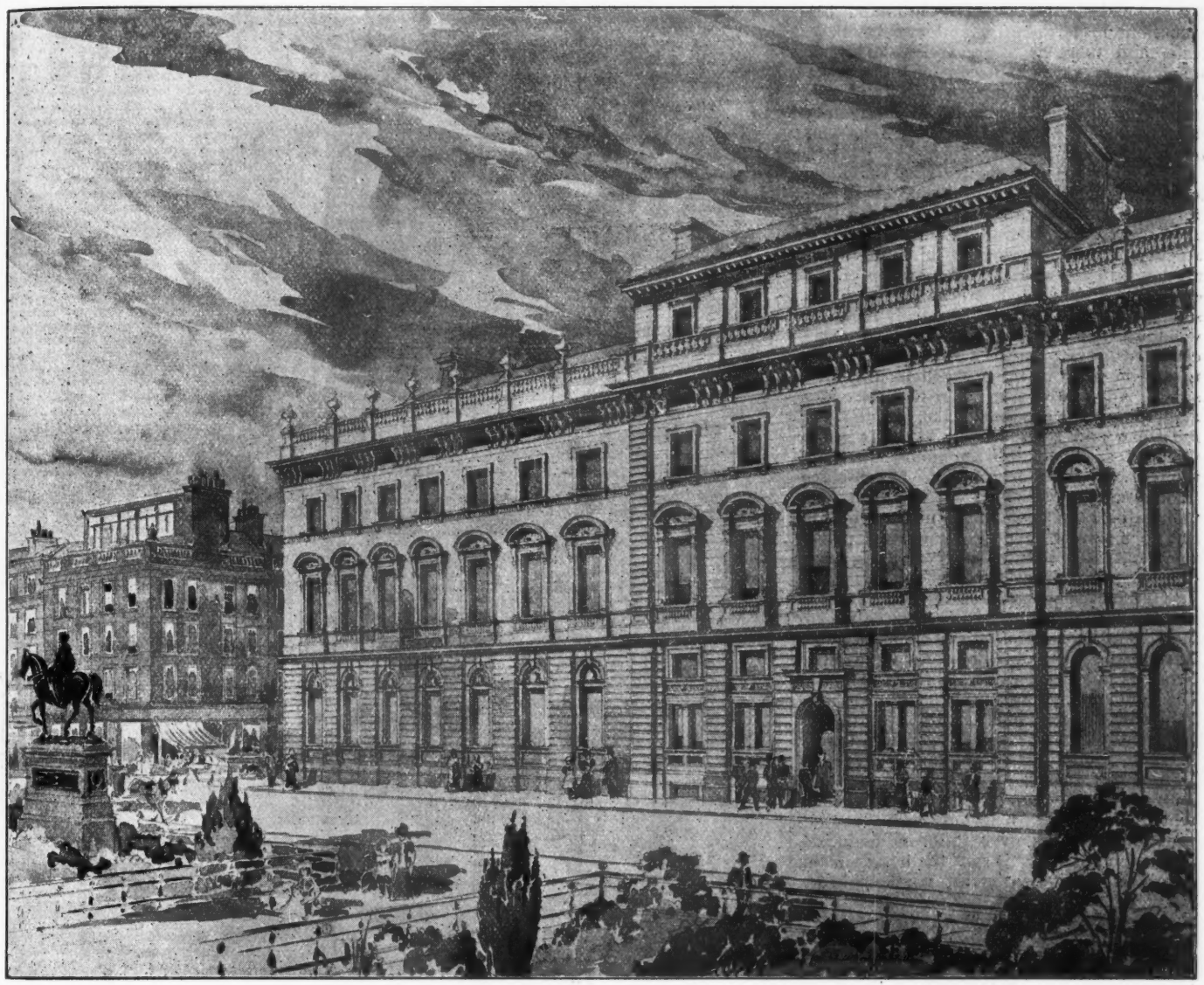
Among many important buildings in Ingram-street, the additions in rear of the General Post-office on one side and the Union Bank on the other are prominent. The former is interesting more from being a not altogether unsuccessful attempt to combine a large area of window with traditional classic details, than for the refinement of the details themselves. On either side of it, on the other hand, are curious little old buildings in the Adam manner, the chief charm of which is their refinement. The Union Bank strikes the eye—rather forcibly than pleasantly—with its polished red granite columns and pilasters; it is, however, a vigorous composition, and its deeply-recessed windows and strong cornice go far to redeem its lack of repose. Next to it is the new Savings Bank building by Mr. Burnet, the banking-room of which, a one-story structure, with a dome and lantern standing rather oddly in front of a four-story block of offices, is a very fine composition in the later Italian Renaissance style, with those broken pediments and curly shields that used to be anathema, and generally deep and

The Corn Exchange. (Mr. W. F. McGibbon.)

strongly-marked features. It is built in a pleasant light brown stone, with a grey granite plinth. We understand that Mr. Frampton executed the incidental sculpture, yet the only things that do not seem quite happy are the crouching figures supporting the pediments; they are almost too much doubled up, and yet too small in scale for the work they appear to be doing. Further on is the new front of the County Buildings, in a similar brown stone, a composition in regulation Classic style, harmonising with the older parts, with the exception that the order is Corinthian instead of Ionic, as at the other end. Next to this is a warehouse, which makes a very poor attempt to be Scottish in style; and at the bottom of Montrose-street a plain, unfinished red stone building, which seems to be designed on much the same lines. Then comes a Gothic revival church, with a square tower facing the end of "Candlerigg," in which and in Albion-street are the two fronts of the City Hall, neither of them very interesting. In Candlerigg also are the markets, which, however, have no architectural pretensions.

Returning, one finds in Glassford-street two fronts worthy of note, that of the old Trades House, a mutilated but still interesting example of the style one knows by the name of the brothers Adam, and the offices of Messrs. Mann & Byars. At the corner of Wilson-street and Virginia-street is the ornate Legal Life Assurance building, and in Virginia-street a good imitation of a Florentine palace in the offices of Messrs. Blair & Co. The block in Miller-street, in which Stirling's Library is situated, is a similar imitation but simpler, while the large building opposite reminds one of the coarser and richer work of Venice.

Passing to the district west of Buchanan-street, there are in Renfield-street and Union-street several large blocks of shops and offices that one would like to have space to notice, but it must suffice to mention the effective new premises at the corner of Gordon-street, and the curious, heavy, half-Grecian, half-Egyptian building on the east side of Union-street, known as the Egyptian Halls, and designed by the late Alexander Thomson. In Hope-street is the gigantic Central railway-station and hotel designed by Dr. Rowand Anderson. One hesitates a little to classify its style. At the time it was built it might have been called "Queen Anne," but it is more restrained than most of the architecture that was then perpetrated in that Royal lady's name—at any rate, it is thoroughly well adapted to the purpose of the building, which, with its long ranges of windows, looks like what it is, and nothing else; while the steep gables and high dormers save it from too great a monotony. The tower alone does not appear quite a success; it seems to lack the belfry or open stage between the plain stalk and the roof, or, failing that, a much stronger cornice or projecting eaves to throw a shadow. On the other side of Hope-street the new Corn Exchange presents its four stories to the world under the guise of two; by which means its architect, Mr. W. F. McGibbon, has succeeded in producing a far handsomer and better building than he could otherwise have done. It is a simple and unaffected but solid and satisfactory composition. The "Standard" buildings, and the block opposite the end of Bothwell-street, are rather commonplace, but the little one occupied by the Temperance League is decidedly pretty, notwithstanding the long drawn-out columns that would give a certain shock to the purists; the well-designed gable is, however, very near to being spoiled by the too large window in it. Of the several large new blocks of offices in Bothwell-street, the Mercantile Chambers by Messrs. Jas. Salmon & Son is at least the most singular and original. It is excessively plain, and its few thin and scattered ornaments seem merely to accentuate its severe simplicity. Its most attractive features are the four female figures under the corbels at the level of the second-floor windows, those on the left, representing Prosperity and Prudence, being particularly fine works. Poor Mercury, in his sentry box over the door, seems to have collapsed after the fatigues of some long journey. There is no doubt that the composition as a whole has the merit of daring originality and is not wanting in skill of a kind, but it looks more like the design of a clever academy student than one put forward for execution by a practical architect; and we are not sure that we like its originality much better than the coarse commonplace of some of its neighbours. Only a few paces further on, in the same street, stands the enormous seven-story block containing the offices of the Christian Institute and other kindred societies; a structure in a sort of round-arched Gothic style that would offend by its coarseness far more seriously were it not used with considerable skill in a building which is also very cleverly



Bank of Scotland Buildings. (Messrs. Campbell Douglas & Sellars.)

grouped as a whole, and impressive on account of its enormous mass. In the streets just south of Bothwell-street, may be noticed the Free Gaelic Church and the Pillar Hall in Waterloo-street, besides several blocks of offices in Wellington-street, notably the Baltic Chambers in course of erection.

A short walk up Mains-street to the corner of Sauchiehall-street, brings one to the Corporation Art Galleries, an extensive building of no special interest, but containing an excellent collection of pictures, among which most of the great schools, but especially the Dutch and Flemish ones, are well represented. There is also a small collection of sculpture, and the glass cases in the rooms contain some good bronzes, ivories, and other interesting objects. The Congregational Church in Pitt-street is a learned imitation of a Grecian Ionic temple, but not more effective than the cleverly grouped Baptist Church at the opposite corner, notwithstanding the comparative inferiority of detail in the latter; nor than the United Presbyterian Church a little further west, which is a very similar structure. The parish church opposite the last named is a good specimen of modern Decorated Gothic, we believe by Mr. Emmet, and has a very well-proportioned spire; it is altogether a much better piece of architecture than the Free Church at the next corner, which is also Gothic, or would be. A little further south, in Elmbank-street, is the High School, a broad, simple, well-designed building of two stories, with a good cornice, and with four piers carrying statues which flank the middle bays and look much better than one would have expected. Large wings, connected with the main block by screens, have been added as memorials of the Queen's two Jubilee years. St. Matthew's Free Church in Bath-street is an elaborate, but not very successful, example of modern Gothic. At the corner of Sauchiehall-street, at Charing Cross, are two very pleasing new blocks of shops and chambers, Albany Chambers and Charing Cross Mansion, by Mr. J. J. Burnet. Of the two we like Albany Chambers the better, especially the narrower side, with its two three-storied bay windows under a gable terminating in a well-designed pedimented niche. Both buildings are in the fashionable red stone. A little west of these, opposite the end of North-street, is a pretty little terra-cotta drinking fountain, erected in memory of Sir Charles Cameron.

St. Andrew's Hall in Granville-street is a very striking composition in Classical Greek style by the late Jas. Sellars, the main feature being a large Ionic colonnade raised on a high podium and surmounted by an attic, plain in the middle, but having a caryatide order in the end bays; the main wall is set well back behind the order, which gives a very fine depth and some good shadows. The weakest features are the four groups of sculpture, the figures in which are squat and out of proportion as well as badly posed. St. George's Free Church in Elderslie-street is also a rather striking structure in its way, though far less learned in its details. It is a cruciform building with a shallow dome and good lantern, and the main entrance is by a deeply-recessed portico with a nondescript Ionic order, the entablature of which is surmounted by an arch of the same depth; the same composition, without the recess, is repeated in the other arms of the cross, and a very good general grouping and effect is produced. The Glasgow Eye Infirmary is a simple building, in Domestic thirteenth-century Gothic, with trefoil-headed windows; and the Trinity Congregational Church is one of the better modern Gothic churches in the town; as is also the church at the top of Claremont-street. The Queen's Rooms, in Clifton-street, is a rectangular building, with a row of high, narrow, semi-circular-headed windows in the lower part, with an effective blank wall and deep frieze carved in bas-relief above them; it was designed by the late C. H. Wilson; the detail is refined and the general effect good, though the sculpture is but moderate. The Italian-looking Wesleyan Church at the bottom of Claremont-street is chiefly noticeable for its campanile-like tower; but the Board school in the same street is a really fine building, of a simple, massive type, very far removed from the typical English Board school. The Kelvingrove United Presbyterian Church, opposite the park gates, is a Gothic Church of a rather French type, with a large rose window over the porch, and a pair of massive-looking flanking turrets; it has an apsidal east end, and is well proportioned and detailed. The Free Church facing the side of the last is a little Grecian building with a good Ionic tetrastyle portico and a refined though rather elongated turret. St. Enoch's Free Church, opposite the new Art Galleries, is noticeable for its tower, which is finished with the four flying buttresses supporting a little turret, which are peculiar to Scotland and a church at Newcastle. It is difficult to form any opinion at present as to what Messrs. Simpson & Allen's Art Galleries are going to be like. Some of the balustrades and pinnacles on the end blocks are set, but none of the roofs are on, and the middle block is far behind

the ends. The details look a little as if they had been originally intended for execution in terra-cotta, and are small in scale, and there is a great deal of block stone left in various places for the carver; we hope that the one main pinnacle at present covered with lead is only an experiment; it looks incongruous and might just as well be stone.

Sir Gilbert Scott's University Buildings look much better close at hand, where the detail can be seen, than at a distance that only shows the general outline: at a distance one only notices the thin and rather top-heavy tower and the ugly masses of the end pavilions; when near, the effective and scholarly mouldings of the deeply-recessed windows, and the carefully-designed niche canopies on the buttresses attract attention—to say nothing of the marvellous traceried spire. Any one can tell now that the spiky angle pinnacles are a mistake, and that the red stone and polished granite shafts in the windows strike an inharmonious note; but though we have learned so much since Scott's day, and though no architect who valued his reputation would now attempt to put up a similar building, we are compelled to acknowledge in it, as in every thing Scott did, the presence of a master's hand. The best piece of composition is, however, the Bute hall between the internal courtyards which, moreover, has, owing to its round angle turrets, the distinction of looking a little Scottish, a merit which is rather rare in Glasgow architecture; perhaps the stepped gables of the residential parts are intended to have the same effect, but they hardly succeed alone. The adjoining Western Infirmary (Messrs. J. Burnet and J. J. Burnet) has, however, stepped gables which, with the help of some characteristic strapwork over the window-heads, succeed better; at any rate the middle block succeeds, in which such window-heads are combined with the characteristic short round turrets on the upper part of the angles. The little joint lodge at the entrances to the University and Infirmary is a pretty little building, and also perhaps aims, though in a rather half-hearted way, at looking Scotch. Anderson's College Medical School, beyond the Infirmary, is unlike the University in that from a distance it invites closer inspection, which is poorly repaid. At the western entrance to the Infirmary, in Church-street, is the new Pathological Institute,* a truly delightful piece of architecture, as original as any one could wish, without being in the least eccentric. At first sight, its gable end and large lead turret give it, on one side, the aspect of a church, or the chapel of the Institution, but that is no doubt unintentional; the turret has, probably, a very practical use as a ventilator, and the square-headed windows and skylights are evidently not meant to deceive. The one large window in the gable, with its queer deep treatment, the broad wall spaces, and the evidence of thought and design in every detail gives us a pleasure for which we feel deeply grateful to Mr. Burnet, its architect. The Wellington United Presbyterian Church (designed by Mr. T. L. Watson), facing the University grounds on the north, is a very effective Classical structure, with a Roman Corinthian order, a great deal of the effect being due to its situation on a steep incline, which has allowed of its being set upon a high base, with a magnificent arrangement of flights of steps leading up to its deep, pedimented portico; the detail is good and the side walls are well set back to get the shadow behind the great columns—altogether it is a striking building. A little lower down the hill is a charming lodge, built from remains of the old University building, and now forming one entrance to the new University: the entrance arch, with the panel and coat-of-arms and strapwork over it, all the windows, including dormers and some deep, many corbelled, balconies seem to be old; perhaps the cornice, with its corded roll, is so also; these details are put

* Illustrated some years ago in the *Builder*.

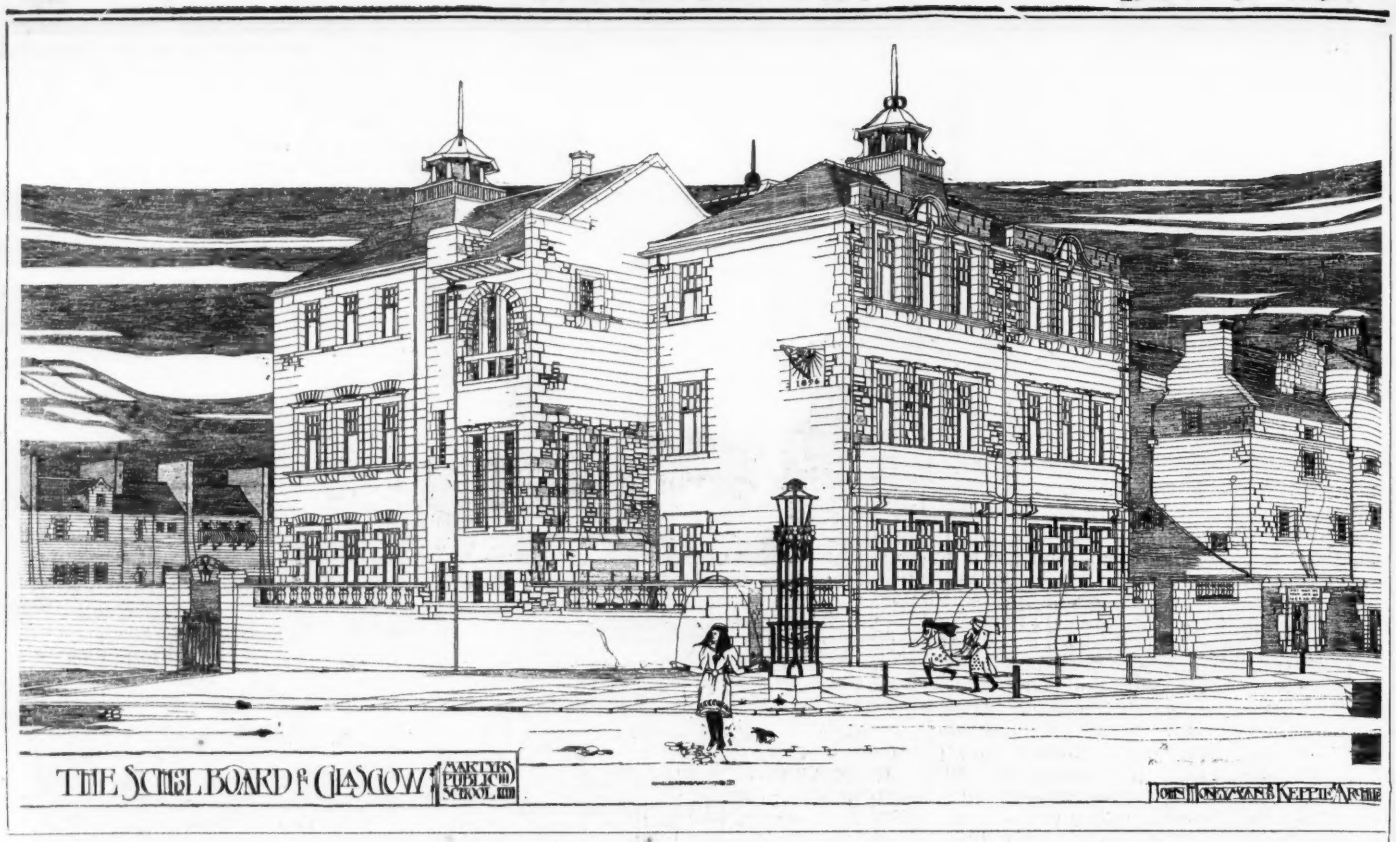
Bargemen's Institute. (Messrs. Honeyman & Keppie.)

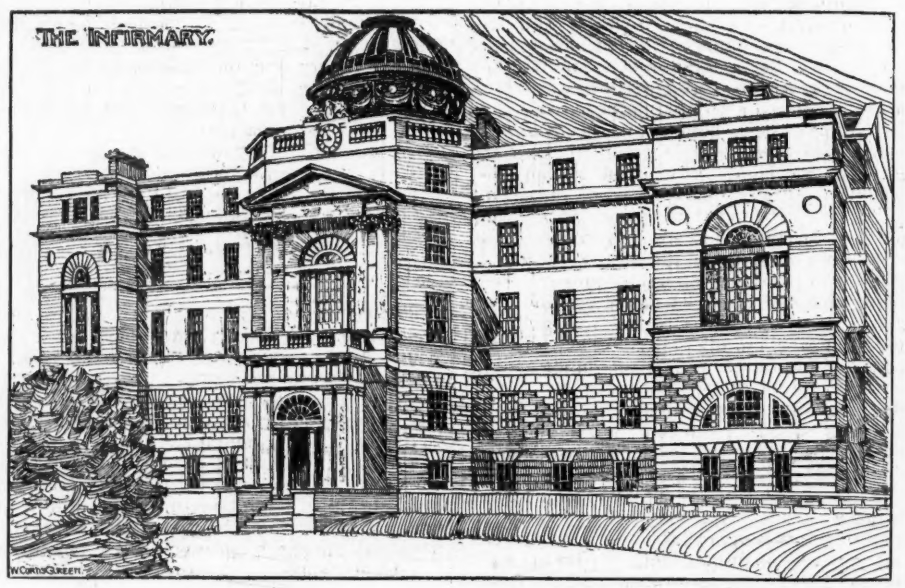
together in a simple, natural way, and with the addition of a round turret on the angle, make a very pretty and characteristic little piece of work. One wishes the two neighbouring Gothic churches were as good as the last few buildings described.

In making from this point an excursion towards the Observatory, the new Belmont Church is passed, a red stone Gothic edifice of plain but good character, with nave and transepts only. In Huntley-gardens there is the Hillhead parish church, an older, but also good example of nineteenth-century Gothic, of a French type in many of its details, with a large wheel window under an arch in the west front, and large—almost too large—angels in the spandrels over it; there are a pair of plain turrets at the west end with a marked entasis in their spires, and an apsidal east end. The Observatory is a plain one-story building with mullioned windows and four centred arches; the Belhaven U.P. Church, near it—a type of small Gothic church at one time much admired, and, we think, justly—has three tall lancet windows of equal height in the gable, flanked by well-developed buttresses. The Kelvinside Academy is a plain building, but well grouped, and with a well-designed central block of the Greek temple character, mounted on a high basement. The Botanical Gardens Station of the Caledonian railway (Mr. J. J. Burnet) is a pretty little red brick tiled building with white woodwork and half-timber gables, a strange sight in Glasgow: it has two tall turrets on the roof with gilded onion-shaped domes, is very well grouped and detailed and looks too good architecturally for what it is. The new medical school of Queen Margaret College (by Messrs. Honeyman & Keppie), near here, is a nice little building of quaint and original character. Further east again one comes to a new block of shops, close to Kelvin Bridge, with gables and square dormers and circular ogee topped end turrets—not over elaborated and of good character. The Academy, close by, is a rectangular block of the sober old-fashioned type, quiet and dignified, with an Ionic colonnade on three sides

Business Premises. (Messrs. F. Burnet & Boston.)

recessed between end blocks which are treated with quoins. The church on the other side of the bridge is a rather ambitious early Gothic one, with high thin spire, but of no great merit. The newer and plainer "Woodside" church, at the corner of Montague-street, is, architecturally, a much better one in a round-arched style; and St. Mary's, a little further on, on the other side, by Mr. J. O. Scott is, as might be expected, very good indeed. It consists of a nave and chancel with aisles and transepts, and a tower and spire of very grand proportions. The style is late thirteenth century, with what is called plate tracery in the principal window heads. There is a delicate wrought iron screen in the chancel arch which would bear gilding; it does not show up in an interior that is much darkened by poor stained glass. The new Volunteer Headquarters in Blythswood-gardens is simple and appropriate; the German Church in Woodside-road, an odd little wooden building; and the Church of England church, at the bottom of the Quadrant, a Gothic structure of no particular interest. Neither is the Woodlands United Presbyterian Church, though ambitious and cleverly designed in a heavy, early French style, and possessing a tower and spire of good outline, altogether satisfactory, It is, however, better than the Park Church, which stands on the top of the hill in the fashionable residential quarter that overlooks Kelvingrove Park and the University; the only interesting feature of this church is its square tower, the belfry stage and pinnacles of which are rather picturesque. At the opposite corner to it is the Free Church college, a grandiose Renaissance building, designed by the late C. H. Wilson, with one large tower at one end, and two smaller ones flanking a pediment at the other, and looking as if they were intended to be in the middle of a longer block, one wing of which has never been built. The neighbourhood of Garnett Hill, to the east of this, does not contain much of architectural interest before arriving at the Sick Children's Hospital and Dispensary, two very neat little buildings, the chief feature of which is a large end turret with a conical roof and lantern. Near here is the Normal school, a large, plain building with little architectural pretension beyond a clock tower and a symmetrical arrangement. Of the several theatres in the neighbourhood between this and the Queen-street station the only one which makes any show of architecture is the new Empire Theatre in Sauchiehall-street. It is, like most theatres in these days, over elaborated,

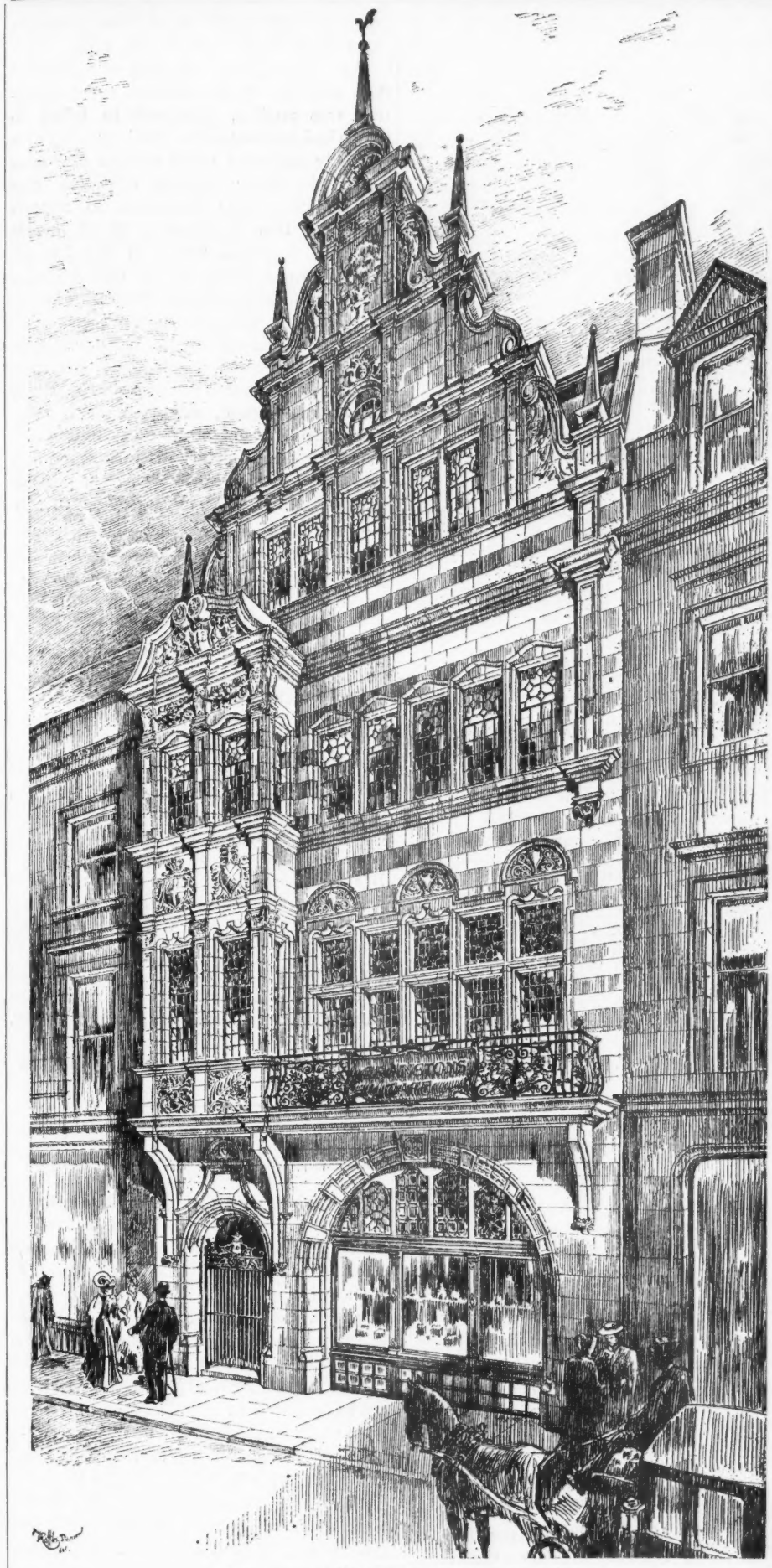




but makes a well-balanced group in red stone with some interesting details. The late Gothic church in Renfield-street, close by, may be just noticed, and there are two new blocks of business premises further west in Sauchiehall-street that claim attention, as well as the Art Gallery, by Messrs. J. Burnett and J. J. Burnett, which is a fine composition of the strictly Greek type, and admirably detailed; the sculptured friezes in the wings are effectively placed, and of just the right amount of relief—details that are too often neglected.

The Cathedral is, of course, the chief centre of architectural interest in the north-eastern district; but, with every desire to find in it a worthy representative of the beautiful thirteenth century style, one must confess that externally it is not, as compared with Gothic cathedrals generally, of imposing size or inspiring beauty. With the exception of its spire, which is disproportionately small, and was probably, from its appearance, rebuilt or added in the fifteenth century, the features are plain almost to baldness, and the details, except here and there, coarse almost to ugliness; it is, moreover, black with the smoke of the city. The interior is different, and a beautiful example of the period. The nave is a narrow one and covered with a wooden barrel vault; the clearstory and triforium are treated as a single feature in a very effective manner, and the clustered piers of the nave arcade are all of one plan and size. The aisles are vaulted in stone, but to a large extent this vaulting seems a restoration. Judged by English contemporary work, the mouldings, even more than the general arrangement, are singular, but not ineffective: the caps of the nave piers have odd stringy-looking mouldings that must be regretted, but if the horrible modern stained glass were removed from the windows there would not be much else that one could wish different. The choir, also vaulted in wood, is more conventional in design than the nave, and the work one may suppose of a more experienced man. But the real interest of the building is, as Sir Gilbert Scott pointed out in his lectures, in the vaulting of the crypt, where the mason thoroughly enjoyed himself in solving puzzles of his own setting. It was, no doubt, worth doing, the fun and interest are still obvious, but one may be excused for suggesting that a less maze-like arrangement of piers would have been more beautiful and made the space more useful. The cathedral stands on the side of a deep valley on the other side of which is the Glasgow Necropolis, which rises in terraces and presents more the appearance of a well-kept foreign than of a British cemetery. Among its many memorials are of course the usual commonplaces, but it also contains a number of worthy monuments, such as one seldom finds out of France or Italy. The Royal Infirmary, opposite the west end of the cathedral, is a good though simple design by Adam, with the characteristic semicircular-headed arch and triple window within it, and a small central dome. Opposite to this again is the Barony Free Church with a broad, saddle-backed tower. The new Barony Church, designed by Mr. J. J. Burnet, is a little further down the hill, but still facing Cathedral-square, the site of the oldest part of Glasgow, long ago cleared away by the Improvement Commissioners. It is a large, simple red-stone building, with lancet windows, and a little sharp turret over the crossing. There is a neat school-house attached and forming part of the group; and just behind the church, in Rotten-row, the Townhead Board School, one of the excellent plain square type that seems to be general for board schools in Glasgow. We give an illustration of one of these Board Schools, an effective and characteristic group by Messrs. Honeyman and Keppie. On the opposite side of Cathedral-square is a church of the older kind in Renaissance style, and on the south slope of the hill is the prison, which is absolutely plain except for the usual turrets with sham arrow slits on the angles of the external wall.

The old College railway station, which was practically the old Glasgow University building, has entirely disappeared, except for the details built into the lodge noticed above, and the external staircase (also re-erected at the new University), and the High-street has lost its chief object of interest. The two classical buildings flanking the end of College-street are, however, worthy of notice and reminiscent of the better days of this quarter. The new branch office of the British Linen Company's Bank, opposite the station, is also a pretty little piece of architecture. At the bottom of High-street is Glasgow Cross, where there is a curious old tall, thin clock-tower with the four buttress crown; and opposite to it a charming little domed octagonal subway station, designed by Mr. Burnet. A little further west is the tower of the old "Tron" Church, standing out over the footway opposite to a most remarkable block of buildings intended to be in the "Scotch

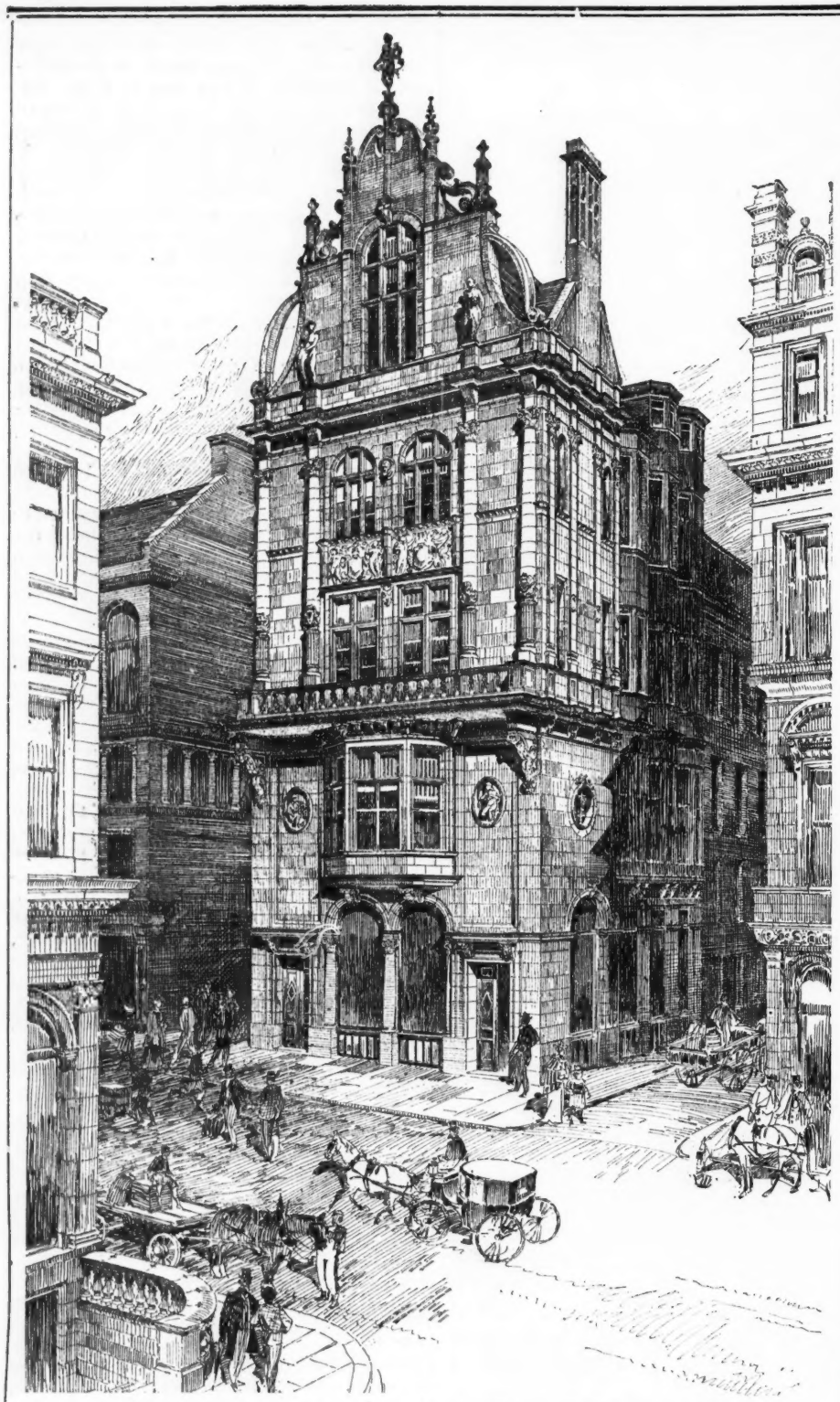


Street Front. (Mr. Washington Browne.)

Baronial" style. The west end of the island containing the subway station is adorned by an equestrian statue of William III. in a toga and laurel wreath, which reminds one of a certain statue in London. St. Andrew's Church in this neighbourhood is a large rectangular building, with an order of Roman Corinthian pilasters on the sides, which become the columns of a portico in front. The architraves of the windows are broken up by numerous quoins and keystones, which gives a rich effect of light and shade; the style of the church altogether is good, if the thin, poor steeple be left out of account. At the bottom of Low Green-street, in which St. Andrew's is situated, is a little church, also of some interest, probably dating from about the middle of the last century, now looking sadly neglected. Further east there is not much of architectural interest besides the new museum on Glasgow Green, a well-arranged, symmetrical, three-storied block, with a dome in the middle, with which the other roofs rather quarrel, and good depth in its architectural features, at any rate in front; the detail is good, without being very refined or interesting. Near this is a rather startling new wing of a carpet factory, designed by Mr. Wm. Leiper in the Italian Gothic style, and built of gaudy-coloured bricks, with blue glass mosaic in the heads and spandrels of the windows. The style is very cleverly imitated in all its features and details; the colours are harmonious, if rather louder than one is used to; and we have no hesitation in saying that we think the experiment is a decided success, and in such a position, overlooking the chief playground of "the masses," one that was well worth making (see lithograph). Messrs. Doulton's terra-cotta fountain on the green may also, perhaps, be mentioned; we do not like the figures and groups on it, but the architectural detail is good, and so would the general outline be if the water were allowed to play; but that is a difficulty the designers of our public fountains always seem to have to face—naturally, if the form to be taken by the water is considered in the design; but where the water is absent the fountain cannot be an artistic success. This is one of the things they manage better abroad.

Returning westward one passes the Eye Infirmary, a pretty little building facing the Green, and, at the west end of the latter, the old Court-houses, a large, two-storied, Classical Greek building, with a deep Doric portico of gigantic columns. The Fish Market is a more modern building, the two large gateways of which give it importance. The Roman Catholic cathedral is a not very successful Gothic edifice, with rather exaggerated pinnacles; the Custom House, a little building, with a small Doric order, of little importance; but the Clyde Trust office, by Mr. Burnet, at the bottom of Robertson-street, is a very fine composition. Its chief feature is a pediment supported on two piers, and four three-quarter Corinthian columns, with caps of original and beautiful design, between which are large, mullioned windows. This middle feature is flanked by broad piers, and mounted on a high rusticated basement, on which two models of the prows of ancient ships are the principal ornaments.

There is but little space left in which to deal with the architecture of the "South side," the extension of Glasgow on to the alluvial plain on the other side of the Clyde. But, except quite at the south end, this district is almost purely manufacturing, and taken up by large factories, warehouses, and the factory hands' dwellings. A few of the factories and warehouses make some pretence of being architectural; for instance, the Scottish Co-operative Wholesale Society's huge block in St. James's-street is treated to three towers of varying design, of which the most important one may claim to be good; and the same Society's newer block in Morrison-street is, for a building of the kind, a well-conceived piece of architecture: the end pavilions with their high curved French roofs and coupled columns make imposing masses, and the middle feature, notwithstanding a pediment that is far too steep, and a dome with too high a drum, is not much inferior; the intervening spaces would have been far more effective if the windows had been set further back in the walls. The front of the old premises in rear of these in Crookston-street is, while less pretentious, even better; the two gables with their shallow arched recesses are original and capable. The new offices of the Fairfield Shipbuilding Company, by Messrs. Honeyman & Keppie, are in the extreme west. They make a long, low front of two stories, with a raised centre block and a square raised pavilion towards one end, which looks as if it ought to have been repeated at the other The middle block is not unlike a lower, broader, and simplified edition of the front of the Clyde Trust offices above described, but the two ship



Scottish Temperance League Building. (Messrs. J. Salmon & Son.)

prows are placed lower down, and form pedestals for two figures of mechanics flanking the doorway. The new Lorne-street Board School is a pleasing variation on the old type, depth being added to the principal windows by solid little three-quarter columns carrying pediments. Govan Parish Church is a modern grey stone church with lancet windows and good vertical character. Near it, in the Govan-road, there is a prettily-designed little public-house, in Scottish rennaissance style, and a little east of this, on the other side, an unfinished lofty block of shops of striking and effective, but rather eccentric, design.

The extreme south, near Queen's Park, is a middle-class residential quarter, with one or two good churches, but space does not allow us to describe them individually. Glasgow is so extensive that it is out of the question to notice everything that is of some architectural interest. The average level of that interest is high, no doubt inspired originally by one or two men of taste and skill who were the first to create any architectural interest at all, and helped by the supply of good stone, the wealth of the community, and their love for their city. We do not think that in the immediate past the high level was so well maintained, but at present it seems rising again, and if something of dignity is lost not to return, the gain in interest will probably more than compensate for it.*

NOTES.

Wall Paintings in the Houses of Parliament.

A RECENT brief Report from the Office of Works on the Houses of Parliament frescoes embodies the latest report of Professor Church in regard to the state of the pictures and the last operations on them. Professor Church had previously advised that Maclise's two waterglass paintings should be protected with a preservative solution consisting chiefly of hard paraffin-wax. It was ascertained that very little change had occurred in the condition of these paintings since they were cleaned in 1894. The surface having been cleaned of superficial dust and dirt by an airblast, the paraffin-wax was applied, dissolved in toluol to which had been added a small quantity of a specially prepared copal varnish free from lead. Professor Church considers that the paintings are improved in appearance by this treatment; at all events that the injurious action of the London atmosphere on the works will be considerably lessened in the future. The five true frescoes which were three years ago cleaned and treated with paraffin-wax have hardly deteriorated at all since that time, but Professor Church recommends that they should be cleansed, and if necessary paraffined, at intervals of three or four years. When the time comes, as it must, when they can be preserved no longer, it is possible that English art will be in a position to substitute for them something better.

Waterloo Station.

IT is to be regretted, from the point of view of the public, that the House of Lords Committee has thrown out that part of the Bill of the South-Western Railway Company under which Waterloo Station was to be enlarged. The scheme no doubt has been altered and diminished to some extent since it had gone through the Select Committee of the House of Commons. It was, therefore, opposed by the County Council because the alterations in regard to streets and houses were not sufficiently to the public advantage. But *primâ facie* a railway company does not make new stations or enlarge old ones for the benefit of those who reside on the property to be taken, but for the advantage of the travelling public. It is obvious that Waterloo Station must sooner or later be enlarged; this, indeed, is a public necessity, and it is to be hoped that next session a satisfactory scheme for this purpose may become law.

Electrical Nomenclature.

WHILST doubts are often expressed as to the progress now being made in electrical theory, everyone is agreed that during the last year or two electricians have shown marvellous ability in inventing new terms. There are already several technical dictionaries of electrical terms, extending to many hundreds of pages, but they seem to get antiquated every year. During this year many words have been used in papers read before the Institution of Electrical Engineers, which are not to be found in any dictionary. For example, Major Cardew talked about a "negative booster" when referring to a dynamo; and in the last paper of the session, by Professor Carus Wilson, there were many new words, some of them invented by the author, and some of them picked up in the United States. The "heat drop" in a dynamo, apparently, is what electricians educated a year or two ago called the "lost volts," and it has many other names. Sometimes one speaker would talk about "earths" and "short circuits" on an electric system, and the next speaker would refer to them as "grounds" and "crosses." The number of expressions ending in "factor" being introduced will probably do good, by reducing this unlimited license to invent to an absurdity. Dr. Fleming began it by calling the cosine of a certain angle the "power factor," and

* This series of illustrated articles was begun in our issue of September 26, 1896. A list of those towns already dealt with, and particulars of future arrangements, will be found on page xvi.

something else the "form factor"; then came the "mass factor," the "impedance factor," the "reactance factor," &c.; and, as if this were not enough, Professor Wilson invents the "induction factor" and the "force factor." Every one of these names is quite unnecessary. It seems to us that if half the labour spent in inventing new names for old quantities were devoted to clearing up the difficulties which abound in electrical theory, rapid progress would soon be made, although, of course, electricians would not be so well able to conceal the weakness of their theories from the intelligent public.

The "Envois de Rome."

THE works sent home by the students of the French Academy at Rome have been on view for the last few days at the École des Beaux-Arts at Paris. The works in painting are not very good this year; the "Homère Chantant devant les Bergers" by M. Deschenaud, a fourth-year student, recalls too much the old official classic art which is now irreverently spoken of as the "Style Pompier." In sculpture there is a fine figure by M. Octobre, "Remords;" and a "Muse Exilée," by M. Champeil, a first-year student, promises well. The architects, on the whole, have the best of it this year. M. Pille, a first-year student, sends a fine set of drawings of the remains and a restoration of the Temple of the Sun in the Colonna Gardens, and an admirable water-colour of a mosaic found at Tusculum. M. Patouillard, a second-year student, exhibits drawings and restorations of the arch of Septimius Severus, and two charming water-colour sketches from portions of Siena Cathedral. M. Recoura, third-year student, sends a drawing of the circus of Maxentius, actual state, with a finely-treated landscape background of the Alban hills, and shows himself to be at all events a very fine colourist. Lastly, M. Chaussemiche, fourth-year student, sends a fine set of drawings of a restoration of the temple of Jupiter at Terracina, accompanied by some sketches of other sites in the neighbourhood.

Central School of Arts and Crafts.

THE exhibition of students' work at the "Central School of Arts and Crafts," opened a couple of years ago by the London County Council, is a disappointing affair, and, excepting in a few departments, hardly appears to justify the existence of the school It was opened ostensibly to supply a special want in crafts which technical education had not as yet reached, but from the work produced it seems evident that either the old system of apprenticeship holds good in certain crafts, or that the instruction is not such as is sought for by the craftsmen. In the establishment of an architectural studio, upon which we commented at the time, evidently a mistake has been made; for the whole year's work only two very poor designs are shown, badly drawn, and likely to cause considerable mirth to any architectural students who happen to visit the exhibition. In the modelling room are some average studies in plaster, some being from the nude. Some rather effective designs from woodcuts in colour are shown, giving an idea of good treatment in this somewhat new art. Among other exhibits are designs for posters, some poor and wiry specimens of furniture design, such as tables and chairs, and some designs for stained glass, which are better. Some executed specimens are also good, especially one from a cartoon by Ford Madox Brown. There are some good specimens of enamelling, which seems to be the most thriving department, although, even in this case, the work is apparently largely that of amateurs. In the division of "stone working for architects" are shown two small panels, but it is difficult to see their educational value. Some examples of bookbinding, cast lead work, and the usual school of art life studies complete the list of exhibits.

Conversazione at King's College.

THE conversazione at King's College on Wednesday night was well attended and was a very successful and interesting affair. The purely recreative part of the entertainment included the performance of an excellent band in the hall, during the reception by Dr. and Mrs. Robertson; a short organ recital in the chapel by Professor Vernham; a string band afterwards on the terrace, which was lighted up and used as a promenade, and a concert in the large hall. Besides these attractions, there were, in various rooms, scientific exhibits and short lectures at intervals; and in another room a collection of what were called original drawings by Sir Gilbert Scott, but which we take it are really some of the numerous drawings made by his various pupils to illustrate his Royal Academy lectures, the whole collection of which was presented to King's College by Mr. J. Oldrid Scott, and forms a remarkable and valuable body of illustrative drawings of architecture. The architectural studios and the wood-carving room on the second floor were also open to the visitors. The pottery exhibited in one room by Messrs. R. W. Martin & Brothers, shows very good and original artistic quality.

The Water Gallery, Hampton Court.

IN our issue of June 25, we gave an illustration, reproduced from Mr. Ernest Law's book, of the riverside view of Hampton Court Palace. The original drawing was made for King Philip of Spain by Antony Van Wyngaerde; it belongs to the Sutherland collection in the Bodleian Library. The Water Gate is also depicted in a plate engraved by Basire, published by the Society of Antiquaries in December, 1804, after a picture that belonged to Sir Joseph Banks. Some other historical particulars may be added in regard to the "Water Gallery," over the water-way. A good many things happened here. Henry VIII.'s Water Gallery had been occupied by Queen Elizabeth when kept a State prisoner by her sister Mary; there occurred the secret interview between Philip and the Princess Elizabeth in May, 1555; and in August, 1559, the clandestine meeting between the Queen and the Earl of Arran, a suitor for her hand; it was afterwards the home, for a while, of King James I.'s daughter, Elizabeth, Queen of Bohemia; and Mr. Law says, it seems it was from the Water Gallery—where is now the terrace balustrade—that Charles I. made his escape in 1648. During the rebuilding of the State apartments Queen Mary II. lived in the Water Gallery, which was richly decorated for her by Wren, most of the carving being executed by Grinling Gibbons. For her china, a then novel taste, cabinets were made by Gerrard Johnson; some of them may yet be seen in the Palace. There, too, she had her "Gallery of Beauties," since removed into King William III.'s Presence Chamber, for painting which Kneller was knighted; a looking-glass closet, decorated by James Bogdane, the animal painter; a bathing closet, a marble closet, and a dairy. In the adjoining Privy-garden she employed Dr. Plunckenet in charge of her collection of rare plants and exotics, and there was made the long arbour of wych-elm trees (perhaps "the cradel walk of horn-beame," mentioned by Evelyn), her favourite resort, which is yet known as Queen Mary's bower. In the summer of 1700 William III., in consultation with Wren, Loudoun, and Wise, resolved to re-make the ground between the south front of the palace and the river; the Privy-garden and the Mount-garden were lowered about 9 ft. On September 25 of that year the Office of Works report that the Water Gallery is taken down (as obstructing the view) and its materials used elsewhere, and that the laying-out of a new terrace between the Broad Walk and the four pavilions at the bowling-green is approved by the king. Kip gives an early view of the terrace, 2,300 ft. long, *temp.* Queen Anne. Some other interesting particulars will be found in the appendix to the late Sir Henry Cole's handbook to Hampton Court.

Great Portland-street.

SEVERAL houses on the east side of the street are in course of being pulled down for their rebuilding. One of them—it is now numbered 122—should not be altogether unnoticed, for it was the last home in London of James Boswell, and, it is believed, that Kossuth (who in 1859 was living in Regent's Park-terrace) occupied the house when he came to England in 1850. Boswell settled in London in 1789, five years after Dr. Johnson's death, taking a house in Queen Anne-street West, which he rented at 50*l.* per annum. Losing his wife that same year he took chambers in the Temple, and joined, with no great success, the Home Circuit. He removed thence to the house, then numbered 47, in Great Portland-street, which is cited in a letter written by Mrs. Ogborne, his neighbour there, to J. T. Smith, and preserved in the Murray "Johnson" collection, and which has been identified with the one we mention. Whilst living there he was appointed, July, 1791, foreign correspondent to the Royal Academy, and brought out, on May 16, 1791, the first edition, in two quarto volumes, of his life of Dr. Johnson, and was engaged upon the third edition at the time of his death there on May 19, 1795. The preparation of the third edition was completed by Malone, who had been Boswell's neighbour at No. 58, Queen Anne-street East, since renamed Foley-place, and now Langham-street.

Mr. Furniss's Gladstone Studies.

WE do not know that it is in very good taste, so soon after Mr. Gladstone's death, to exhibit a number of sketches of him many of which are caricature, and sometimes rather ill-natured caricature. But there are a certain number among the 150 sketches by Mr. Furniss at the Fine Art Society's rooms which are in a more serious manner, and which strikingly illustrate the late statesman's desperate earnestness of character and the manner in which he threw his whole

soul into a debate. "At Bay" (12), "Pressing Home a Point" (30), "Listening to an Interruption" (42), "A Pause in His Speech" (48), and some others, are really fine, and indicate the greater side of Mr. Gladstone's character. "Walking into the House" (4) is a good portrait sketch.

Destruction of Ancient Houses.

WE quote the following remarks from a recent issue of the *Centralblatt der Bauverwaltung*. *Mutatis mutandis*, the words apply to proceedings that take place in England, in one locality or other, every week. "A beautiful house-front of the last century—the house in the Flachsmarktstrasse, at the corner of the Rechengasse, in Mainz—has come to ruin. The beautiful door-frame, richly ornamented, has been removed in opening out large show-windows, so that the characteristic decoration of the house is destroyed. . . . Is there no means of preserving, in the interests of the public, such a work of art? Had it been a Roman fragment there would have been no lack of protection for it" [in Germany perhaps, not necessarily in England], "but since it is merely a fragment of old Mainz it may go to destruction without a word. It is like the consolation of the pedant who did not care that his father and mother should die, so long as he had photographs of them."

THE GUILDHALL LOAN EXHIBITION.

THE regular London exhibitions, so numerous at this time of year, have prevented our hitherto finding space for any special notice of the remarkable loan collection of French pictures at the Guildhall, which however may be said to be the finest collection of pictures, at least in proportion to the number exhibited, at present open in London. Among the modern pictures one is glad to meet again with some exceptionally fine works which have already been seen in London exhibitions, as well as with some others less familiar; while the collection of works of the older school contains examples of some French painters whose works are not often met with.

Meissonier is represented by one of his greatest and most successful battle pictures, the large water-colour of the cavalry charge which was originally exhibited in London under the simple title "1807," forming one in a short series of Napoleonic subjects, but which has now the title "Friedland, 1807." It was for this picture that Meissonier bought a field of standing corn and procured the loan, as one may say, of a troop of dragoons to gallop in it, with the view of studying accurately the effect. With all the vigour of the group of riders in front of the picture it is remarkable, nevertheless, how completely the scene is dominated by the calm impassive figure of Napoleon in the rear, entirely bearing out the artist's professed aim in the work, "to paint Napoleon at the zenith of his glory." Ney was the general director of the movement of which this charge formed a part, and by a dramatic contrast, on the other side of the room is what is perhaps M. Gerôme's most impressive picture, "The Execution of Marshal Ney," exhibited in Gallery II. of the Royal Academy some twenty years ago or more. Both of these pictures are remarkable among the works of their respective painters for an exceptional seriousness of aim and feeling. Meissonier is represented in the exhibition by one or two works of his more usual style, including one of the early microscopic ones, "Causerie"—hardly one of his best; and Gerôme by the admirable historical picture, "Son Eminence Grise," and by his still more remarkable painting of a desert scene with a lion chasing antelopes, the lion in the foreground in the middle of a great bound into the air, with his shadow making a blue blot on the hot sand under him; a picture which we noticed specially at the time of its exhibition in the Salon a few years ago.

Among other works in the large gallery is a typical example of the art of Bastien-Lepage, "The Potato Harvest," one of those large pictures of plain and unadorned peasant life with which his name is chiefly connected; there is also his smaller and very expressive and piquant portrait of Marie Bashkirtseff. At the top of the room, in the central position, is Rosa Bonheur's monumental picture of "The Lion at Home," flanked by two works each admirable and telling in its way, singularly contrasted in subject—Jules Breton's "First Communion" (a work rather apart from this artist's usual line of subjects) and Detaille's fighting episode, "A Reconnaissance," not one of the most impressive and dramatic of his battle pictures in general effect, but one of the most real in bringing before us an actual incident in street fighting. In the large gallery is also M. Harpignies' beautiful landscape "Solitude" from last year's Salon, which should interest people as a typical example of the finest qualities of contemporary French landscape painting; M. Gerôme's "Cleopatra," as *passée* now as Cleopatra herself must have been at the time; M. Henner's "La Source," an example of this artist at his best; M. Dagnan-Bouveret's "Bretonnes au Pardon," which made such a sensation at the Salon of 1889; M. Benjamin-Constant's remarkable Moorish interior entitled "Pastime of a Spanish Kalife," and a small but very fine landscape by M. Jan-Monchablon. In the raised gallery at the end of the room are one or two of M. Tissot's English subjects, painted during his London period, including the exceedingly clever ball-room scene, "Too Early"; also Bouguereau's "Cupid and Psyche," a typical specimen both of the powers and limitations of this accomplished but essentially common-place painter.

The second gallery, on the higher level, contains a good many examples of the seventeenth and eighteenth century French painters; one or two charming works by Le Nain, several Watteaus, not of the very best, but interesting examples of his work; several by Lancret, one or two fairly characteristic examples of Fragonard, and several of Boucher. On the end wall are some examples of works of the earlier nineteenth century artists, of which the most interesting are two very broad free landscapes by Jacque, remarkably modern in style for their date, and a fine forest scene by Rousseau. Georges Michel's "La Bouille," hung over the last-named work, must not be taken as a favourable example of Michel's work, and seems to have been repainted in parts, the trees more especially: if not, it is unlike any example of Michel that we have previously seen.

We confess, however, that we turn with more interest to the pictures of the later and contemporary artists in the upper galleries. Among these is Corot's noble landscape "Le Lac," several beautiful smaller works by Daubigny, an exceptionally fine landscape by Diaz, "L'Orage;" two or three of the same painter's small figure groups, so remarkable for their poetry of colour, and a very fine cattle picture of Troyon's, "Going to Market," painted with a force and solidity that gives the idea of the pigments having been loaded on with the fingers rather than with a brush. In the third gallery are two exceptionally fine little works by M. Gerôme and M. Fantin-Latour, hung as pendents one on either side of the door, and which may stand as very characteristic examples of the prose and the poetry, respectively, of figure-painting. That by Gerôme, "Bain Maure," is in his most finished style of Oriental interiors; a tiled bath-room where a white nude woman is seated by the edge of a bath, while a mulatto woman with an orange-coloured head-dress prepares to throw water over her from a brass vessel. The colour and the execution of every detail are perfect; even the collection of garments hung over the screen is quite a study. M. Fantin-Latour's picture, "The Bather" is the very reverse of all this. Not a detail is fully made out. It represents a half-nude figure, under the shade of trees which form a dark background to the figure, gathering up her drapery, which falls in harmonious lines from her arm; the water and the landscape are just sufficiently made out to keep their place in the composition; but the whole is not the least like a representation of actual fact; it is a kind of ideal poem in form and colour, the kind of picture, like his "Le Lever" in this year's Salon, the charm of which is quite undefinable in words; in an intellectual sense it is one of the finest things in the whole collection, though, one may fear, little understanded of the people.

Among the other works in this part of the gallery, besides those previously mentioned, are one or two charming little *genre* paintings by Mme. Henriette Brown; a little work by Rosa Bonheur, "The Return to the Mill," an admirable specimen of M. Chevilliard's sarcastic studies of French priests—"He Dines at the Château;" a very clever small interior by M. Chavet, "The Reader," which might almost pass for a Meissonier; Cabanel's picture, "The Florentine Poet," so well known by engravings; Courbet's "L'Immensité," a very fine sky and a bad sea; an admirable half-length portrait by M. Carolus-Duran, "The Poet with the Mandoline;" a very clever painting by M. Degas of the ballet scene from "Robert le Diable," and M. Puvis de Chavannes' sensational picture of "The Beheading of John the Baptist," painted a long time ago, and, as one may say, before he became Puvis de Chavannes.

The exhibition is evidently attracting a great number of visitors, and should be very useful in giving to the general public an idea of the quality and style of some of the best modern French artists. The catalogue, which is very well got up, gives a short sketch of the life and work of the principal artists represented, with the dates of their birth, and the date of the picture, where known.

THE ARCHITECTURAL ASSOCIATION SUMMER VISITS:

HEVER CASTLE.

HEVER CASTLE, in Kent, was visited on the 2nd inst. by twenty-two members of the Architectural Association, including among the number the President, Mr. G. H. Fellowes-Prynne. Permission to visit this most interesting and beautiful building was kindly granted by the owner, Mr. Waldo; and as the castle is at present unoccupied the visitors were allowed to examine it very thoroughly.

The place presents a peculiar mixture of the peaceful domestic house and the defensive feudal castle. It was built as it now stands, mostly about the middle of the fifteenth century, and being surrounded within about 10 ft. by a wide moat it has had no excrescences built on to it subsequently. The east side is occupied by a castellated gateway, which is at present approached across the moat by a bridge of brick and stone.

A stout oaken portcullis and door both outside and inside, and a groove for a third portcullis midway between the other two, together with holes in the stone vault of the gateway for molten lead, pitch, and other missiles to be cast through, make a pretty complete series of defences at this point.

The house is built round a small court-yard, the dwelling rooms and offices forming the three sides not occupied by the more martial looking gate house.

The courtyard is about 40 ft. square, and paved with bricks laid in a herring-bone pattern. The outer walls are of local stone with a warm coloured soft Sussex sandstone for the wrought portions. The walls of the domestic portion of the courtyard are of timber and plaster. There are quadrant shaped "sham timbers" on the plaster, evidently old work, and showing where a more modern coat of plaster has peeled off. Horizontal real oak moulded strings run round the walls at intervals and these are protected with lead weatherings. The lead is in lengths of about 4 ft. and is about $\frac{1}{5}$ of an inch thick and lapped at the junctions. The plaster and timber walls are carried up and form a parapet. The old windows in this portion have moulded oak mullions and transoms.

The house as at present existing is in a somewhat dilapidated condition, though we hear that it is shortly to be made thoroughly habitable. Successive occupiers of the place have put up partitions here and ceilings there, and these somewhat mar the proper dignity of the interior. The banqueting hall, which is on the west side, has been turned into a kitchen, and shorn of part of its height; the old fireplace is filled up with a modern close iron range, and an ugly stair casing is thrust into the N.E. corner of the room.

The main axis of the building runs east and west, and passes through the entrance gateway and court, the passage between the banqueting hall and the old kitchens, and across a second bridge over the moat at the back or west side. The passage between the hall and kitchens is screened off from the hall in the typical manner with an oak screen, which is enriched with

fluted Jacobean pilasters. The kitchens on the north have two large fire arches, reminding one very much of those at Hampton Court. One of these arches is bricked up. In the other is lying a very fine cast-iron fire-back, with the Royal arms upon it and the initials C.R.

Occupying the ground floor of the north wing are larders and store places, and in one of these lies the old wrought-iron roasting crane and the spit and clockwork jack for turning it, also the ponderous weight which actuated the jack. It is to be hoped this may be restored to its place in the old kitchen, even if it cannot be made fit for use. With the exception of this and a long Elizabethan "joined" table in the hall, there is nothing in the house in the way of furniture.

From the banqueting-hall there was originally a spiral stair leading to the first floor rooms and to the long gallery under the west roof. The steps have been removed, and the space used as closets opening off the main rooms. There are four or five staircases now existing in the house, one being of about the beginning of the eighteenth century. Some of the older stairs have steps cut out of solid triangular pieces of oak, but they are laid on bearers, and not erected as stone stairs are now done, one step supporting that above it.

The upper chambers are for the greater part completely panelled in oak, the framing having the usual fine mouldings found in Jacobean work. One chamber on the north side has a massively constructed oak ceiling, the beams being moulded and mason-jointed at the mortises. There is also on this side a little closet overlooking the moat, with elaborately carved pilasters to the panelling, or one should say "pilaster," as all except one have been taken out.

Probably the most interesting feature of the house is the gallery under the roof of the west side. This is about 90 ft. long by 15 ft. wide, and has a four-light transomed window at each end looking north and south. There is a fireplace in a recess about the middle, and an oriel on the west side at the south end. Out of this oriel (the window of which has been blocked up) opens the spiral stairplace before mentioned. The long gallery is completely panelled up to the slopes of the ceiling with Jacobean oak panelling, having fluted Ionic pilasters at intervals of about 10 ft. The caps of these are delicately carved but, unfortunately, several are missing. There is a trap-door in the floor at the north end of the room, communicating with a secret chamber or dungeon. There is some fine stained glass in a bedroom window on the first floor, looking into the courtyard, consisting of coats-of-arms. Worth notice, too, are some very pretty wrought-iron door handles, bolts, locks, and hinges, of the same period as the panelling.

The guard-room and a room above it over the gate have been panelled in recent times in deal, and the work painted to imitate oak, with the usual disastrous results.

There is a second and outer moat, now dry, surrounding the inner moat, and with a broad interval betweeen the two, which would make a beautiful site for a formal garden, especially if both moats were full of water. The house is now too closely hemmed in by trees, but with its weather-stained and creeper-covered walls, its moat covered with yellow water lilies, and the chinks of the walls full of fumitory in full bloom, it makes a most beautiful and romantic picture. There is also an interesting stable building, partly coeval with the house, and a bowling green, which at present is not "trim."

The visitors derived great pleasure from seeing this delightful old place, and the thanks of the Association are heartily due to the owner for his kind permission to view it. The party took leave of the castle hoping some day to be able to revisit it, and to find its beauty enhanced and its interest increased by the judicious restoration which it is to be fervently hoped it may receive.

After leaving the Castle the church was visited, and there are to be seen several interesting and one very fine sixteenth century brass. The modern yellow oak pews and some other new works in the church are a sad blot on an otherwise interesting building.

W. B. H.

PLYMOUTH CITADEL BARRACKS.—In the notice of the drawings of this building in our last week's article on "Architecture at the Royal Academy," the architect's name was inadvertently given as Mr. Kitson, it should have been "Mr. Kitsell."

Cast-iron Mantel modelled by Alfred Stevens. (The property of the Coalbrookdale Co.)

CAST-IRON MANTEL MODELLED BY ALFRED STEVENS.

THE mantelpiece and grate here shown were designed by Alfred Stevens for the Coalbrookdale Company, and a cast from the work is in their exhibit at the Royal Aquarium. The alto-relief decoration round the opening was modelled by Stevens's own hand; it shows his characteristic freedom and vigour of detail, and is an illustration also of the great sculptor's practical perception as to execution of the work, for though the relief is very bold and has at first sight the effect of undercutting, it is all modelled so that it could be drawn out of the mould as it stands.

MAGAZINES AND REVIEWS.

The *Art Journal* contains a very exaggerated article on Rodin, the sculptor, by Mr. Charles Quentin, who can see nothing but perfection in all Rodin's work, including the figure of Balzac, which we are now told to regard not as a powerful but rather preposterous sketch, but as one of the great works of the age. Form in a work of art (in sculpture, too, of all the arts) is to count for nothing, inspiration is everything. A great many of us could be sculptors at that rate. The most valuable article in the number is one by M. Eugene Muntz on "An Italian Realist of the Fifteenth Century," namely, Pisanello of Verona.

The *Magazine of Art* contains an interesting article on M. Guérin's School of Art at Paris. The article on the Salon is illustrated by a full-page plate of Mme. Demont-Breton's beautiful "Dans l'eau bleue," which should be looked at by those who have not been able to see the original picture.

The *Studio* (June 15) includes among its numerous illustrations some studies by Sir E. Burne-Jones. Among the illustrations of decorative work the examples of Copenhagen porcelain are fine and interesting. An article on the three Vernets, the French family of painters, with reproductions of some of Carle Vernet's sketches, should also be noticed.

The *Artist* is called a "Burne-Jones Memorial Number," though the deceased painter and his works in fact only occupy a small portion of its pages. The article shows a far too blind adulation of Burne-Jones's art, but that is to be in the fashion at present. The articles on "Rural Crafts" (apropos of the "Home Arts and Industries Association") and on "The Craft of the Silversmith," dealing especially with the work of Mr. Gilbert Marks, are both of interest, but the designs of the latter show that to "go straight to nature" and "to discard all the conventions which have gathered around metal work," is apt to lead to work which is unbalanced and deficient in the quality of style, though no doubt style may in the end be developed out of this.

The *Architectural Review* (Boston), in its last issue contains an article by Elizabeth W. Champney on "The Château Gardens of Le Nôtre," an artist who had opportunities such as no landscape gardener has ever had since. The principal illustration is one of The Baron Hirsch Trade School, New York, which reminds one of a French Lycée. The small drawings of a hunting stable, by Messrs. Haydel and Shephard, have a somewhat more indigenous flavour, and we like them the better on that account.

The *Engineering Magazine* contains an article on ornamental wrought-iron, with sketches of ancient work and some examples of modern American work, which however has no special quality distinguishing it from European work. Among the other articles in the number are one on "Sewage Disposal" and one on "Applications of Electro-Chemistry."

In the *Antiquary* Sir Stephen Glynne has an interesting article on the Church of Barton-on-Humber, one of the series under the title of "Church Notes," and Mr. Geo. Bailey contributes the second of a series on "Some Ancient Wall Paintings," dealing with those of the church of Burton-Latimer.

The *Nineteenth Century* contains an article on "The Salons" by Mr. Claude Phillips, much of the criticism in which seems to be prompted by a desire to be-little most of the things that other people admire, but we are glad to find that he does not bolster up Rodin's absurd so-called statue of Balzac.

The *Century* contains an article on "Modern Dutch Painters," with illustrations of their works; one on "Wilhelm II. as Art Patron," in which we are not surprised to read that the German Emperor's efforts to encourage art "smack too much of personal tastes and one-man power"; and a short and discriminating article on Romney, to accompany two engravings from his works by Mr. Timothy Cole.

The *National Review* contains an article by Mr. H. Heathcote Statham on "Street Music," mainly in relation to the preposterous tyranny of the organ-grinder under which we are allowed to groan in London. In the course of the article it is shown that no capital in the world tolerates this nuisance as we do, and that the argument that it is a form of music for the people (by which the County Council seem to have been bitten) is utterly wrong headed, since tunes mechanically ground out can have no effect but to vulgarise popular taste and blunt the popular ear.

The *Pall Mall Magazine* contains an illus-

trated article on "Castle Bromwich"; the article on "The Evolution of Comfort in Railway Travelling" is concluded, and a new series on "The Story of the Ship" that is, the evolution of the ship, is commenced by Mr. Clark Russell.

We have received also the *Gentleman's Magazine*, the *Genealogical Magazine*, the *English Illustrated*, the *Quarry*, and *Knowledge*, all good numbers, but not containing anything suggesting special comment.

Illustrations.

ILLUSTRATIONS OF GLASGOW ARCHITECTURE.

THE illustrations this week are all of Glasgow architecture, and are all referred to in the leading article of this issue.

They comprise exterior and two interior views of the Town Hall, by Mr. W. Young; the front and side elevations of the Glasgow Athenæum, by Mr. J. J. Burnet; a group of churches,—St. Vincent-street U.P. Church (the late A. Thomson), the Barony Church (Mr. J. J. Burnet), the Free College Church (the late C. H. Wilson), Camp Hill Church (Mr. Leiper), Wellington-road U.P. Church (Mr. T. L. Watson), and Queen's Park Established Church (Messrs. Campell Douglas & Sellars); a distant view of the University (the late Sir Gilbert Scott); the Western Infirmary (Mr. John Burnet); the National Bank of Scotland; the Central Station (Dr. Rowand Anderson); Premises in St. Vincent-street (Messrs. F. Burnet & Boston); Carpet Factory (Mr. Leiper); *Citizen* Building (Mr. T. L. Watson); and *Sun* Buildings (Mr. Leiper).

COMPETITIONS.

SCHOOL, GREETLAND, HALIFAX.—At the last monthly meeting of the Elland and Greetland School Board, the Sites and Building Committee reported that they had decided in reference to the proposed new infants' school at Elland, that the architect who received the first premium should be asked to carry out the work, unless two-thirds of the members of the Board decided that such a course was undesirable. As regards the plans which were forwarded for competition, the committee decided that the first premium of 10*l.* should be awarded to plans marked No. 2, and the second premium of 5*l.* to plans marked No. 1. It was explained that the successful plans had been sent in by Mr. Herbert W. Booth, Halifax, and the winners of the second premium were Messrs. Richard Horsfall & Son, Halifax.

ARCHITECTURAL SOCIETIES.

NORTHERN ARCHITECTURAL ASSOCIATION.—On the 2nd inst. the members of this Association had an excursion to Durham. At three o'clock the members, to the number of nearly thirty, assembled at Durham railway station, and from thence proceeded to the new County Buildings in Old Elvet, where they were met by Mr. H. Barnes, of the firm of Messrs. Barnes & Coates, Sunderland, the architects for the new buildings, who conducted them over the same. From the County Buildings the company proceeded to the newly restored Chapter House, where Mr. C. Hodgson Fowler, M.A., F.S.A., the Cathedral architect, acted as guide to the party. At the conclusion of the visit to the Chapter House, St. Oswald's and St. Margaret's Churches were also visited, and subsequently the company were entertained to tea by Mr. and Mrs. Hodgson Fowler.

CARDIFF, SOUTH WALES, AND MONMOUTHSHIRE ARCHITECTS' SOCIETY.—The first outing of the Cardiff, South Wales, and Monmouthshire Architects' Society has just been held, when the members journeyed to Bath, where they were met by Mr. David, one of the firm of the Bathstone Quarries Company, and conducted over the principal quarries of the company. Then they were entertained at luncheon, and subsequently driven in breaks through the quarry properties. Major Davies afterwards took the party over the Roman baths. The Abbey was next visited. At luncheon Mr. David presided, and gave the toast of "The Cardiff, South Wales, and Monmouthshire Architects' Society," to which Mr. C. B. Fowler, the President, and Mr. Caple, the hon. secretary, responded.

BRADFORD SOCIETY OF ARCHITECTS AND SURVEYORS.—The summer excursion of this Society took place on the 28th ult. to Harrogate, Pateley Bridge, and Ramsgill. The party made an inspection of the new Harrogate Baths, after which there was luncheon at the North-Eastern Hotel in that town. At noon the journey was continued to Pateley Bridge, where wagonettes were taken to Ramsgill. On the way the works of the Bradford Corporation at Gowthwaite Reservoir were viewed, and on return to Pateley Bridge dinner was provided at the King's Arms Hotel. The chair was occupied by the President (Mr. P. D. Fairbank). The toast of "The Guests" was submitted by the Chairman, and spoken to by Mr. Charles Gott, Mr. T. H. Healey, Mr. C. H. Hargreaves, Mr. W. J. Morley, and Mr. James Young (secretary), and it was replied to by Alderman Holdsworth (Chairman of the Bradford Waterworks Committee) and Mr. James Watson (Waterworks Engineer).

DUNDEE INSTITUTE OF ARCHITECTURE, SCIENCE, AND ART.—The annual meeting of the Dundee Institute of Architecture, Science, and Art was held in the Y.M.C.A. Rooms on the 30th ult. Mr. Leslie Ower presided. The annual report of the Council, which was read by Mr. J. J. Henderson, the Secretary, stated that the members numbered 46. The Council sympathetically noticed the death of Provost Orchar, who had always been a warm friend to the Institute. The Associates numbered 99, being a decrease of 24. Of the 24 lady Associates elected in 1891 only 6 remained. There were 10 honorary members, which was the same number as before. The negotiations with the master builders over the rules of measurement were brought, as was thought, to a satisfactory conclusion by the publication of the compiled rules on January 1 last. Unfortunately the Slaters' Association had seen fit to repudiate the arrangement come to in the matter of allowances. The slaters were now proceeding with a system of boycotting, which, while it might inflict some little inconvenience on individual architects, would undoubtedly in the long run recoil on the heads of the slaters themselves. Recently a request was made by the Master Builders' Association to have an item inserted in schedules to cover compensation to workmen under the new Act; but the Council of the Institute ascertained that all the other Architectural Societies in Scotland were against such an item, and they declined to accede to the request. The report was adopted. The following office-bearers were elected:—President, Mr. T. M. Cappon; Vice-President, Mr. Thomas Hutton; members of Council, Messrs. R. Blackadder, G. A. Harris, J. W. Mackison, and David Dickie; Secretary and Treasurer, Mr. J. J. Henderson; auditors, Messrs. J. P. Bruce and George Jamieson.

ARCHÆOLOGICAL SOCIETIES.

HELLENIC SOCIETY.—At the annual meeting of this Society on Monday M. Reinach read a paper suggesting a new nomenclature and meaning for the Venus of Milo, viz.: that the figure really represents Amphitrite, and not Aphrodite. The argument is based mainly on a consideration of a statue of Poseidon discovered at Melos in 1877, which is said to have a great resemblance in style and technique to the "Venus" of the Louvre, and it is argued that the two may have been a pair. Some weight is no doubt added to the conjecture by the consideration, which has probably suggested itself to many persons before now, that the very dignified and regal pose of the Louvre statue is hardly in keeping with the idea of a statue of Venus.

SOUTH AFRICAN INDUSTRIAL AND ART EXHIBITION.—An Industrial and Art Exhibition is to be opened at Grahams-Town, South Africa, on December 15, to close on January 21, 1899. The exhibits are to be classified under five main groups—Raw Materials, Manufactures, Machinery, Natural History and Science, and Fine Arts. The latter group will include paintings and drawings, etchings, engravings, architectural drawings, photographs, sculpture, art metal work, wood carving, art needlework, and china. The machinery section is expected, however, to be one of the principal features of the exhibition. Messrs. Savage & Sons, Blomfield House, London Wall, have been appointed forwarding agents in London. Inquiries and other communications are to be addressed to the South African and Transvaal Advertising Co., Effingham House, Arundel-street, Strand.

THE ASSOCIATION OF MUNICIPAL AND COUNTY ENGINEERS:

ANNUAL MEETING: EDINBURGH.

The annual meeting of the Association of Municipal and County Engineers was opened in Edinburgh on Thursday, June 30. Mr. Lewis Angell, West Ham, Senior Past President, occupied the chair in the absence of Sir Alexander Binnie, and amongst those present were Messrs. O. Claude Robson, Willesden, President-elect, J. P. Barber, Islington; W. N. Blair, St. Pancras; Scorgie, Rotherhithe; Col. Jones, Carshalton; W. H. Harpur, Cardiff; J. Lobley, Hanley; Yabbicom, Bristol; A. E. Collins, Norwich; J. Parker, Hereford; Cockrill, Yarmouth; A. Creer, York; Stead, Harrogate; W. H. Savage, West Ham; McBrair, Lincoln; A. D. Greatorex, West Bromwich; J. S. Pickering, Nuneaton; Burton, Burnley; A. Thomas, Bucks; E. P. Hooley, Nottingham; Campbell, Canterbury; J. Lemon, Southampton, and many others.

Prior to the commencement of the Conference the members were received in the Council Chamber by the Lord Provost and other members of the Corporation, Mr. Cooper, Burgh Engineer, having introduced the members of the Association.

The Lord Provost, on behalf of the Corporation and citizens of Edinburgh, bade the Association welcome to the city. It was extremely appropriate, he thought, that they should have chosen Edinburgh as the centre of their annual visitation, because at the present time they had completed or were engaged on very important engineering works.

Mr. Lewis Angell, in acknowledgment, expressed their sense of the courteous and cordial reception accorded to the Association.

The members then returned to the Royal Hotel, where the proceedings of the annual meeting were immediately entered upon under the presidency of Mr. Lewis Angell.

Mr. T. Cole, Secretary, read the annual report of the Council, which stated that during the year the progress of the Association had been satisfactorily maintained. Since the last annual meeting they had added seventy-two new members, and the number of the roll was now ten honorary members, 732 associates, and ninety-two graduates—a total of 834. The Council placed on record with deep regret the death of Sir Robert Rawlinson, K.C.B., who had been an honorary member of the Association since its formation, and who always showed a deep sympathy with and a keen interest in its work. The accompanying balance-sheet showed the Association to be in a highly satisfactory position, the credit balance standing at 255*l.*, and the invested capital at 750*l.* The premiums for papers had been awarded, the first of books, value 10*l.*, to Mr. S. S. Platt, of Rochdale, and the second, of 5*l.*, to Mr. Blackshaw, of Stafford.

The report was formally adopted, and the premium of books presented to Mr. Platt. Mr. Blackshaw was not present.

On the proposition of Mr. J. Lemon, Southampton, the number of examiners was increased to twelve. He explained that the number of candidates for the Association's examination had so increased as to make this step necessary.

Mr. Claude Robson, of Willesden, was then introduced to the meeting as the President for the ensuing year, and took the Presidential chair.

Mr. Lewis Angell then proposed a vote of thanks to the retiring President, Sir Alexander Binnie, for his services during the year. Sir Alexander Binnie, he said, was the first Municipal Engineer of the world, and it had done honour to the Association to have such a President.

Mr. J. Lobley, Hanley, seconded the vote of thanks, which was accorded with acclamation.

President's Address.

The President then delivered his inaugural address. He thanked the members for the high honour that he had received at their hands, and promised that it would be his earnest endeavour to enhance the interests of the Association to the utmost of his power and ability, and steadily to maintain the high reputation it had gained in the past. Reviewing the various duties of the Municipal Engineer and Surveyor he said that some idea of their magnitude might be obtained from the fact that since 1871 the Local authorities had incurred, upon the strength of their borrowing powers, an indebtedness of over 150,000,000*l.* for sanitary works and other improvements. This vast sum was in addition to and quite independent of the annual cost of works defrayed

from current expenditure. The progress of sanitation since the constitution of the Local Government Board might also be fairly gauged by the fact that the amount of the loans to Sanitary Authorities sanctioned by the Local Government Board in 1871 was only 267,000*l.*, whilst in 1896 the amount was upwards of 5,500,000*l.* The nature of the works for which the Municipal Engineer was responsible was varied, comprising road-making and road-maintenance, with concurrent bridge and viaduct work, tramways, sea and river walls, designs of sewerage and water systems, treatment of sewage, public lighting, erection of isolation hospitals, public offices, free libraries, mortuaries, markets, and other buildings incidental to municipal administration, the laying-out of public parks and pleasure grounds, fire brigade control, and supervision of new buildings. In addition, the Municipal Engineer must advise on all Parliamentary promotions affecting his district, and have a fairly intimate knowledge of the various Acts now relating to Public Health. Upon the competency, energy, and zeal displayed by the officials discharging these duties the comfort, convenience, and health of the community largely depended, and the responsibility thus accepted was well known by themselves to be no light one. It was, nevertheless, he believed, one that was taken up with enthusiasm by all of them. They felt that they were members of a grand profession, which tended to the benefit of their fellow man, and he was glad to believe that this ever-present desire of the Municipal Engineer to further improvement in sanitary and kindred sciences was each year becoming more recognised and more appreciated by those whom they served.

Amongst questions of interest, that which had taken priority during the past year, and had been most discussed, was the now familiar subject of the purification of sewage by biological means, as exemplified by the septic tank, Mr. Dibdin's system, Col. Ducat's filter, and others. This very recent discovery of the valuable assistance rendered by the micro-organisms in tank and filter must be deemed the more extraordinary if it were remembered that the much-condemned cesspools of olden days, with filter tank attached, evidently were adaptable, if they did not contain these natural media, for the breaking down and after oxidation of organic matter in the sewage to be treated, but presumably the generation and, if he might so say, the intelligent nursing of these minute organisms pent within the walls of tanks or filters was not then understood, and it was only quite recently that this system of Nature had been adapted to the hygienic laws. The absence of sludge and the accompanying difficulty of its disposal in the neighbourhood of large towns was especially an important element in the system, and would in itself greatly tend to economise the expenditure upon sewage treatment. Should the promise given in several of the experimental works prove as successful with a varying flow and every description of sewage, or in the more comprehensive scheme for Exeter, as recently sanctioned by the Local Government Board, it would, indeed, be a long stride towards the solution of that difficult problem of the efficient treatment of sewage under all conditions. Especially would it be a boon to those towns discharging into rivers with a small catchment area, and where land treatment was impossible by reason of great price or unsuitability of soil. With suitable land available, however, and at a moderate cost, it was probable that the rotation of Nature as illustrated by the land treatment, from earth to plants, plants to animals, with return from animals to earth again, would in many places retain its early pre-eminence, and the economy of nature thereby be maintained. The whole subject was now doubtless in a somewhat experimental stage, but would in all probability receive the earnest attention of the Royal Commission just formed for the consideration of the treatment of sewage, and whose report was awaited with so much interest and anxiety by municipal engineers. At the enquiry much valuable evidence would be received upon this important question, but with all submission it appeared that beyond this some assistance might be rendered to the Commission if experimental works were provided in the near neighbourhood of the Metropolis, where the several systems of biological treatment could be parcelled out, and, so to speak, practically investigated and tested for a certain period of time, under exactly similar circumstances, as to character of sewage, extent of flow, climatic conditions, and other situations of identity. With careful and intelligent daily supervision, investigation and systematic analyses, much valuable testimony might be gained for presentation to the Commission. The cost of the construction of the necessary works need be but small, and should not stand in the way of what he believed would eventuate in most useful results.

The necessity for more careful consideration in the system to be adopted for the treatment of sewage was becoming each year intensified by the rapid increase of population, by the addition of legislation relating to river pollution, and the more drastic supervision given by the river authorities with regard to sources of pollution.

Foremost still amongst the difficulties of sanitary administration was the ever-troublesome question of the ventilation of sewers. Numerous patents had been launched for the combustion or disinfection of the gases, but hitherto with no material result. Like many other patents experiments upon a small scale were eminently satisfactory, which failed from various causes when applied to a comprehensive system extended over a large district. In many towns the open grids had been augmented by the fixture of upcast iron shafts attached to houses and elsewhere, by which all odours offensive to the olfactory nerves were removed far above their sensitive action. The method adopted was a simple and inexpensive one, and although the efficacy of the shafts was by no means universally agreed upon, his own experience of the system, he must admit, had been most satisfactory The complaints formerly made by residents had practically ceased in those districts where a perfect system had been available, and the life of the engineer had consequently been a more agreeable one during the summer months than was formerly the case.

The action of these shafts was doubtless largely affected by climatic influences, a greater current being registered during strong winds, but after a series of anemometrical readings for twelve months he had found in no single instance a downward current apparent, whilst the upward current had averaged 30 cubic feet per minute, and had upon many days during the summer months, when the utility of the shafts was most required, amounted to 70 or 80 cubic feet. With a current of this rapidity much more success had been achieved in clearing the sewers of foul gases than would have been possible with the open grids. The necessity for these shafts as vents for the gases generated in the main sewers of a town would not, however, be so apparent were all the minor tributaries of a system of main sewerage laid with the same care as the public sewers under the control of the Local Authority. The main cause of the odours in sewers, so much complained of, was the foul contribution from faulty house drains, where the flushing administered by the occupiers was not sufficient to cleanse the drain and the intercepting syphon from deposit. A systematic and efficient system of flushing to the house drains where necessary was therefore an important factor in dealing with the ventilation of sewers, as by this work the possibility of the generation of *foul* gases was minimised by the sewers receiving a flow free from putrefaction. The flushing of the sewer itself was at times useless, as the malodorous contributions of the house drains were left untouched, and the sewer itself might have been perfectly free from deposit prior to the application of flushing.

It was with bated breath that he dared to suggest the abolition of the syphons attached to the house drains, those miniature cesspools through whose putrefying media all drains must now discharge. Whilst at times they were useless for the purpose for which they were fixed, he was confident that at all times they were the source of emanations from the house drains and the sewers. On the other hand, without them what a multiplication to the area of ventilation would be afforded by the thousands of upcast shafts attached to the rear of the houses, while at the same time the atmospheric dilution of the sewer gases would be materially increased.

Dealing next with the condition of the highways, Mr. Robson considered that the improvement effected during the past twenty years was due in a great measure to the higher standard of excellence demanded by the authorities, and the ubiquitous cyclist. The introduction of light railways was an important question, closely affecting the suburbs of the large towns, where they might be introduced without the statutory consent of the road authority, and without any provision as to rate of speed, protection of public roads, restoration and maintenance of same, purchase of undertaking by Local Authority, and many other covenants now required by the Acts relating to the construction of tramways. The supervision of new buildings was possibly one of the most important of the duties of the Municipal Engineer in securing stability of buildings, and in endeavouring to maintain health and ward off disease in the homes of the people. With reference to the provision against fire he considered that some additions were required in the present by-laws, as generally adopted throughout the country, in order that better provision should be made for fire-proof walls and floors in flats or buildings of the tenement class now being so generally built in large towns. In the metropolis powers already existed, but except in private Acts there was no authority that he was aware of outside the metropolis that could enforce this necessary provision. To render the by-laws absolutely satisfactory fireproof floors or horizontal party-walls should be rendered compulsory. This was a matter that might be reasonably represented to the proper authorities by the Association. Upon the sanitary aspect as relating to the supervision of new buildings too much attention could not be paid to the efficient construction of the drainage and the provision of requisite space around the dwellings in order that a free circulation of air might be obtained. Dealing with municipal electric lighting, the President remarked that the advantages in many ways of electricity over any other form of artificial light must be generally admitted, and that the financial success of most undertakings by Municipal Authorities seemed to be assured after the second or third year of working. It was therefore to be anticipated that in the near future this system would, like many other municipal promotions, become a relief to the burden of rating, and that the price would compare favourably with that of any other description of lighting.

Mr. C. Jones, Ealing, in proposing a vote of thanks to the President for his address, said it had been rarely indeed that they had had an address so thoroughly utilitarian in its character.

Mr. J. P. Barber, Islington, who seconded, remarked that Mr. Robson had been one of the most valuable men the Association had ever possessed for his quiet, unassuming work.

The vote of thanks was unanimously accorded, and briefly acknowledged by the President.

Tarred Macadam Roads.

Mr. A. H. Campbell, City Surveyor of Canterbury, then read a paper on "The Use of Tarred Macadam in the Construction of Roadways in Urban Districts, and Comparative Considerations." There was, he said, no improved form of macadam which was so coming to the front and demanding that attention which its merits unquestionably deserved as that now going by the name of tarred macadam. It was a composition of any of the stones, gravel, or clinkers commonly used in the making of macadam roads with a mixture of tar. It was a smooth and noiseless road, non-absorbent, cleanly in itself, and easily kept clean; and its first cost was within the capacity of the most reasonably restricted finance of small towns and districts. The life of this description of road paving might be taken at seven years, and it was claimed for it that the cost was not only less than ordinary macadam, but incomparably less than wood, compressed asphalte, or setts on concrete bed. It was not suggested that this description of pavement should enter into competition with these superior materials of road construction; but it was claimed that on the leading streets of smaller provincial towns, in the secondary and suburban thoroughfares of large towns, where in many cases stone or granite setts were used at heavy cost, tarred macadam properly prepared and laid would form a welcome, valuable, and economic substitute.*

Mr. Smith Savile, Darwen, who proposed a vote of thanks to Mr. Campbell for his paper, said that he had been accustomed to mix the tar with cold macadam instead of heating the stone in the way adopted by Mr. Campbell.

Mr. Wike, Sheffield, said with respect to the burning of the material they used flues in Sheffield, and thus a great deal of time was saved, because the material could be prepared in twenty-four hours. They had used different kinds of material, and found limestone and furnace slag the best, granite being non-absorbent and consequently unsatisfactory. He found the life of the material to vary considerably, the annual cost in a number of cases, coming out, one at 4d. per yard per annum, another at 7½d., another at 2d., another at 9d., and another at 7¾d.: proof that the life and wear varied very much. He had had comparisons got out of the cost of granite and tar macadam, and found that granite was 50 per cent. cheaper.

Mr. Baker, Middlesbrough, believed the most important matter in connexion with the use of tar macadam was the proper boiling of the tar, so as to get the tar of the same consistency. It was also important in the making of the road to get a good sound foundation under the tar macadam. He did not consider the burning of the stone to be necessary, providing that the stone were thoroughly dry, and the tar were properly boiled.

Mr. Lemon, Southampton, remarked that there was no doubt that the cyclist had much to do with the improvement of the roads. There was nothing particularly new about tar-macadam. He had seen it in a good many towns and had seen a good many failures. He considered it best to convert old macadamised roads into tar-macadam roads rather than start with the latter material on an entirely new road, so as to avoid the very heavy cost for foundations referred to by Mr. Campbell. If that plan were adopted they could get a good tar-macadam road for 3s. per yard super. He, however, advised surveyors, if they had no experience with the material, to put the work into the hands of a contractor, or of some one with experience. The tar itself varied considerably in quality, even from the same gas-

*We hope to be able to print more of this paper in a subsequent issue.—ED.

works, and there were many other details about it which made for success or failure.

The vote of thanks to Mr. Campbell was then agreed to.

Refuse Destructors.

Mr. J. Young, C.E., Edinburgh, read a paper on the experience of Edinburgh with refuse destructors. He explained that the refuse carts made a daily round of the whole of the streets of the city in the early morning, and collected all the refuse, together with the street sweepings which the scavengers had collected on their various beats. The total amount of all kinds of refuse collected annnally was about 140,000 tons, made up of 100,000 tons of general city refuse and 40,000 tons of mud and street sweepings. About three-fourths of the refuse was despatched by railway to the country, where it was tipped, and the remaining one-fourth was sent to the destructor, but was of very mixed quality, light in weight, bulky in measurement, very dry, and possessing a poor amount of cinders and carbonaceous substances, but containing a large amount of dusty and sandy matter. After referring to the gradual decrease of the demand for refuse on the part of farmers, which led to the appointment of a committee of investigation and the erection of a refuse destructor of ten cells at Powderhall, he dealt with the early difficulties experienced in the working of the destructor by complaints of nuisance on the part of persons in the immediate vicinity, and the consequent action of interdict in the Court of Session. As a result of this action, the destructor was reconstructed and the whole of the old cells were taken down to the under side of the firegrate level, and ten entirely new furnaces built by the Horsfall Refuse Furnace Company. After the Horsfall destructor had been working for about six months a proper test, extending from June 28 to July 12, 1897, or twelve working days, was made for the satisfaction of the arbiter, Mr. B. Hall Blyth, C.E. At the start of the Horsfall destructor the Corporation accepted an offer by the Syndicate to dispose of the refuse for 1s. 4d. per ton, which was subsequently increased to 1s. 8d. per ton. At the beginning of October last the Corporation took the burning of the refuse into their own hands, and the present cost was 1s. 9·23d. per ton. No charge was included for maintenance, tools, repairs, &c., or for repayment of capital.

Mr. Paton, Plymouth, said it appeared to him that Edinburgh had set a very high standard with respect to the collection of refuse, as a daily collection must add enormously to the cost. The figure of 1s. 9·23d. per ton for burning the refuse he regarded as somewhat alarming. They had been accustomed to a very much lower figure than that.

Mr. C. Jones, Ealing, said, with regard to the unfortunate position in which the Edinburgh Corporation was placed some time ago, they must bear in mind that a destructor was a novelty. In respect to the decision of the arbiters in the action against the Corporation, he looked upon their recommendation "that more intelligent and experienced stokers should be employed in the working," as the most important aspect of the whole affair. It was the intelligent working of the small details which went to make up the prosperity of the entire whole. When he came to Edinburgh, and went over the destructor works with Mr. Laws, they arrived at the same conclusion, that the principal difficulty was due to the fact that it was not intelligently worked. With regard to destructors generally, whether of the high or low temperature, he regarded them as a valuable adjunct to a town, but they depended entirely upon intelligent working for their success. With regard to the expenditure per ton of refuse burnt, he admitted that the figures staggered him. The utmost which his destructor had cost him was 1s. 6½d. per ton, and he got a splendid clinker which he had been using for sewage tanks, artificial stone, &c., which reduced the net cost to 3½d. per ton. He warned municipalities and engineers against the idea which was being put forward that they could get a lot of power out of the burning of the refuse to light their towns with electricity and provide the motive power for electric trams in the streets. Destructors were a means of destroying house and road refuse, and there they had better leave it. If they put up electric works to depend upon the intermittent power to be obtained from the burning of refuse they would make a big mistake whatever patentees might say.

Mr. Wike, Sheffield, remarked that their destructor was in the neighbourhood of certain works of which complaint had been made. The owners, to take the wind out of the sails of the Corporation, began to complain of the smoke from the destructor. The chairman of the committee allowed the complaints to go on for a time and then replied simply to the effect that the destructor had not been working for a month. Their destructors were consuming 10½ tons per cell per day, and the amount of the residuum 27½ per cent.

Mr. Mackenzie supported Mr. Jones' view that destructors should be regarded as dust destroyers and not wealth producers; and they should all insist upon the refuse being thoroughly destroyed. He was pleased that the Edinburgh people were prepared to pay so high a price to have their refuse thoroughly destroyed.

Mr. Parker, Hereford, said, as there was a calorific value in house refuse it was their duty to obtain it and utilise it to produce steam energy. He was struck by the high cost, as at Hereford they were burning their refuse for 7d. per ton, and were producing an excellent clinker.

Mr. Jones explained that he had been utilising the steam produced by his destructor for thirteen years, but it must be regarded as an intermittent power varying with the quality of the refuse.

Mr. Harpur, Cardiff, asked to what cause they attributed their success in getting rid of the nuisance which formerly existed—was it the alteration of the cell or the construction of a dust-catcher?

Mr. Cooper, Edinburgh, said they had experienced much criticism in regard to the destructor, and no doubt quite justifiably. Lord Kelvin had recently told him that he believed they could utilise the heat for their destructor, and by turning it into steam obtain 300 horse-power. If they could do that they would be able to burn their refuse for nothing.

Bailie Mackenzie, Edinburgh, said they heard a great deal of what the Shoreditch and Bermondsey Vestries were doing in producing electric light from the heat generated by their destructors. They had consulted an expert, and were told that if they put up their electric light works at the destructor they might get 150 or 200 horse-power. He thought engineers ought to speak their minds freely and put down the humbug that was talked of getting so much power from destructors.

Mr. Collins, Norwich, pointed out that the bulk of the refuse dealt with in Edinburgh would considerably increase the cost of burning it. With reference to the power to be obtained when destroying winter refuse at Norwich they got a very useful horse-power from the cells, say from 80 to 100 porse-power from the two cells, but during summer time, when they got a good deal of garden refuse, the calorific value was much less.

On the proposition of the President, a hearty vote of thanks was accorded to Mr. Young for his paper.

Cable Traction.

Mr. G. N. Colam, C.E., Edinburgh, then read a paper on the "Conversion of the Edinburgh, Leith, and Portobello Horse Tramways System into Cable Traction." He explained that the Corporation had purchased all the tramways within the borough, and they had leased the working for twenty-one years to a company, which agreed to pay 7 per cent. upon the price paid by the Corporation for the old lines, and the same rate of interest upon all money expended in converting to any form of mechanical traction they chose. He thought the Corporation was to be congratulated upon the arrangement made, and suggested that those who advocated municipal working of tramways might consider the arrangement worthy of favourable consideration. He believed the reasons for adopting cable haulage in preference to other mechanical power were that the overhead trolley system would interfere with the appearance of the streets, that the contour of the city was exceptionally hilly, and that the experience of London, Birmingham, and Edinburgh had proved that they could treat with a lessee with full knowledge of the approximate working cost per car mile. Proceeding to explain the extent of the system, he stated that after conversion the tramways would extend to 23·279 miles and 0·870 miles of single track. In 1890 the cost of motive power was 1,279*l.* as compared with 1,180*l.* in 1896, maintenance 2,219*l.* as compared with 2,710*l.*, car miles 222,822 as compared with 376,725, and passengers 2,582,620 as compared with 3,715,989. Although the mileage had been increased 69·06 per cent. and the number of passengers carried increased 43·88 per cent., the motive power was less. The reduction in cost of motive power had been due to improvements and a slight reduction in the price of coal, and the reason for no increase was that the loads up and down balanced on an average. These figures proved that cable haulage was able to enormously increase its car service and so provide for the future without appreciable increase in its working expenses. An interesting table illustrating this showed that the traffic during the Show week in July, 1893, increased the receipts by 311 per cent., and the rise in working was only 12 per cent.

Mr. Baker, Middlesbrough, mentioned that in Middlesbrough a company were putting down ten miles of tramways on the overhead trolley system.

Mr. Paton, Plymouth, considered that the local circumstances must be the determining factor in guiding the Authority as to the best form of traction to adopt. He could quite believe that with the wide streets existing in the modern part of Edinburgh a cable tramway could be constructed at a moderately small initial outlay, but there would be difficulty in adopting the system in old streets where there was uncertainty as to the depth of drains and gas and water pipes.

Bailie Mackenzie, Edinburgh, remarked that it was a very curious thing that while in America they were throwing out the overhead trolley electric system, they were beginning to adopt it here. Was it the case that the Mayor of Chicago had made an agreement with the different tramway companies that within a certain radius of the centre of the city there were to be no overhead trolley wires? Was it the case that in Washington, Boston, and New York they were throwing out the overhead trolley? It was very curious, and his explanation was that many large syndicates with any amount of money behind them had made a raid upon the municipalities for working electric installations.

Mr. J. Lobley, Hanley, explained that New York would never have the overhead trolley, and therefore it was incorrect to say the system was being abandoned. He was of opinion that the overhead trolley system was the most advantageous for many years, but agreed that the question of system was one which must be decided by local circumstances.

Mr. Colam, in replying to the discussion, and as an acknowledgment of the vote of thanks, said he thoroughly agreed with Mr. Paton that every district required to be considered upon its own merits and requirements, and he considered that the proper people to discuss that point were the local authorities. He knew many districts in the country which could not give better results than the one-horse car, financially.

Sewer Ventilation.

Mr. Alexander Stewart, A.M.I.C.E., then read a paper on "Sewer Ventilation," as applied to the water of Leith intercepting sewer. He explained that the scheme, which was designed for dealing with noxious trade refuse, consisted in the catching up by an intercepting sewer of the various sewage discharges. It also intercepted the mill discharges where these could safely be put into a conduit where caustic soda was in use. Certain depositing ponds were constructed for eliminating the material which had a tendency to collect in the inside of the pipes, and so to obstruct the sewer. In order to supply a corresponding amount of water put into the sewer, two reservoirs were increased in storage capacity to the exact equivalent of the waste liquid extracted from the sewer. The sewer extended from low-water mark at the Black Rocks, Leith, for seven miles, and its cost was about 350,000*l.* In the construction of the sewer street surface ventilators were introduced, but the hot discharges from breweries and distilleries, commingling with the sewage, gave off such nauseous smells that ventilator after ventilator had to be closed. The manholes were eventually fitted with a chemical apparatus by the Reeves Chemical Sanitation Company, which had proved successful.

Mr. J. Lemon, Southampton, who proposed a vote of thanks to Mr. Stewart, said the paper raised the important question as to how far manufacturers and others were to be allowed to discharge their noxious refuse into the

sewers. It appeared hard for the Local Authority to have been put to the expense of 350,000*l.* for an intercepting sewer, and he could not see the justice of the expenditure.

Mr. Greatorex, West Bromwich, stated that the results of certain experiments which he had made showed that ventilation by means of shafts was a mistake. He found that in the majority of cases, the shafts did not act at all; the air was coming out of the inlet instead of the outlet.

Mr. J. S. Pickering, Nuneaton, said he noticed it was necessary to utilise the water from the water mains for the flushing of the sewers. As a rule he thought those processes of ventilation which required mechanical aid were not to be preferred if something could be got more simple and requiring less attention.

Mr. Platt, Rochdale, considered it somewhat strange that they had not power to prevent refuse being put into the sewers at a very high temperature. In England the highest temperature at which manufacturers could discharge into the sewers was 110 deg.

Mr. Smith Savile, Darwen, pointed out that in places where they had a staple industry they could not carry out the restrictions of the Act with respect to the discharge of trade refuse into the sewers. He was formerly in a town where water was frequently discharged into the sewers at 212 deg.

The President remarked that he had ventilated upwards of fifty miles of sewers with shafts with absolute and complete success. With respect to the Keeling gas destructor, he found it expensive and unsatisfactory.

The vote of thanks was accorded with acclamation.

[The remainder of our report is held over until next week.]

THE LONDON COUNTY COUNCIL.

THE usual weekly meeting of this Council was held on Tuesday in the County Hall, Spring-gardens, Mr. McKinnon Wood, Chairman, presiding.

Loans.—On the recommendation of the Finance Committee it was agreed to lend the School Board for London 150,000*l.* for new schools, &c., and the Battersea Overseers 4,840*l.* for a building for parish meetings.

The Strand Improvement Scheme. — Mr. Shaw Lefevre, Chairman of the Improvements Committee, in moving the reception of the main Report of the Improvements Committee, said it dealt with six schemes, including that from Holborn to the Strand. All these improvements involved the expenditure of 1,100,000*l.*, but the main cost was due to the Holborn-Strand scheme,* which would amount to 774,000*l.* The scheme had been universally welcomed by the public. He pointed out that it was not a new one, but had occupied the attention of the Council for many years, and was a necessary complement to the schemes in the neighbourhood which had already been approved by the Council, the removal of Holywell-street, the widening of Southampton-row, and the clearing of the Clare-market site. Any delay in accepting the scheme would involve an increased expenditure of some hundreds of thousands of pounds owing to the increase in the value of the adjacent property caused by the improvements mentioned. The scheme was essentially the same as that formulated by Mr. Frederic Harrison, with the exception that the Strand end of the street terminated in a crescent. The advantage of this plan was that the traffic would be divided going east or west before it reached the Strand. The scheme offered great advantage from an architectural point of view, and would be carried out at a lower net cost than previous proposals. They had made such arrangements that they were able to deal very generously with the Housing of the Working Classes Committee. The cost to the Council would be from 100,000*l.* to 120,000*l.* more. They would, however, for the first time in the history of the Council, be able to rehouse all the working classes who were displaced, and would find places for those employed within a mile of the district within that area. From whatever point of view the scheme was regarded, as a street improvement, as a great sanitary improvement involving the improvement of the whole district, or as an architectural improvement, it would add to the dignity and beauty of London, and he believed it was a scheme worthy of adoption by the Council. He moved the following recommendations :—

"(*a*) That the Council do apply to Parliament in the Session of 1899 for powers to construct a new street, and branch streets, 100 ft. wide, from Holborn to the Strand, and to carry out the subsidiary street improvements in general accordance with the scheme shown on the plan approved by the Improvements Committee on May 25, 1898. (*b*) That the question of powers being sought to enable the Council to lay tramways along the new streets be referred to the Highways Committee for consideration and Report. (*c*) That provision be made for the construction of a subway under the new streets (for mains, wires, &c.), and also for the planting of trees in the new thoroughfares. (*d*) That provision be made in the Bill for part of the cost of the improvement to be dealt with on the same general principle as that embodied in the improvement charge sections of the London County Council (Tower Bridge Southern Approach) Act, 1895, but that a longer period than three years be allowed within which to judge the effect of the improvement upon the surrounding property. (*e*) That provision be made by the scheme for rehousing within a mile of their residences all the persons of the labouring class displaced who are dependent on fixed employment in the neighbourhood, and that adequate provision be made elsewhere for the remainder of the persons displaced. (*f*) That provision be made as far as possible for rehousing the people previously to their being displaced. (*g*) That if on acquiring any property needed for the improvement, such property shall be proved to be insanitary, compensation shall be paid according to the rules laid down in the Housing of the Working Classes Acts, and not according to the Lands Clauses Consolidation Act, 1845."

Dr. Cooper moved, as an amendment to (*a*) : — "That having regard to the heavy burdens now imposed on the ratepayers of London, the Council declines to apply to Parliament for power to carry out any large metropolitan improvement at the sole cost of the occupying tenants, or which will involve any addition to the county rate, until after the Royal Commission on Local Taxation has reported, or provision been made by Parliament for some equitable division of the net cost of the improvement between the owners of ground values in the administrative county of London and the occupiers thereof."

Mr. Glanville seconded the amendment, but after a long discussion it was negatived by a large majority.

Mr. Bond, M.P., then moved :—"That the following words be added—'Subject to the Church of St. Mary-le-Strand being included within the limits of deviation shown on the deposited plan, in order that the Council may have an opportunity of considering the desirability of removing the church to the southern end of the proposed new thoroughfare or to some other suitable and conspicuous position, thus escaping the cost of acquiring the houses and trade interests on the north side of the Strand and Holywell-street.'"

Mr. Spokes seconded the motion, and Mr. Wallace Bruce protested against the vandalism involved in interfering with the church. Dr. Longstaff took the same view, and the amendment was lost.

Recommendations (*a*), (*b*), (*c*), and (*d*) were then adopted.

Dr. Cooper, on recommendation (*e*) moved as an amendment :—"That provision be made in the Bill for the erection of all the dwellings to rehouse the labouring classes, who will be displaced by the construction of the new street and its branches, prior to the present houses being demolished and the land cleared; and that it be referred to the Housing of the Working Classes Committee to consider and report upon the probable cost of rehousing the displaced people in the vicinity of the new street and at Millbank."

Mr. Shaw Lefevre explained that the cost of rehousing within a mile would amount to about 300,000*l.*, or, roughly, 100,000*l.* per thousand persons.

This amendment was also defeated, and recommendations (*e*), (*f*), and (*g*) were agreed to.

Other Improvements.—The remaining proposals of the Committee as to the reconstruction of Cat and Mutton Bridge, Shoreditch; the reconstruction of the swing-bridge at Old Gravel-lane, St. George-in-the-East; the widening of High-street, Kensington; and the widening of Wandsworth-road, between Vauxhall and Nine Elms-lane, were severally adopted, after discussion.

District Surveyors for North Fulham and South Fulham.—The Building Act Committee reported as follows, the recommendation being agreed to :—

"We have proceeded upon the resolution of the Council of May 24, that applications be invited by public advertisement for the appointments, upon the terms laid down by the Council, of District Surveyor for North Fulham and South Fulham respectively. . . . In response to the advertisement twenty applications were received for appointment to the district of North Fulham, and eighteen as regarded South Fulham. These, however, included applications from one District Surveyor for appointment to North Fulham, and from another to either of the two districts, in each case *in addition* to his present district. Of course if these two District Surveyors had, without seeking to retain their present districts, each applied for appointment to one of the vacant districts, that course would have been perfectly in order; but, having regard to the fact that applications for the appointments were publicly invited, we did not feel at liberty to entertain those of the two District Surveyors referred to. We referred the applications to a Sub-Committee consisting of the chairman and two past-chairmen of the Committee and one other member. The Sub-Committee, having carefully considered the applications and testimonials, invited seven of the candidates to attend before it; and in the result brought up to us the names of the six gentlemen whom it deemed most suitable for the appointments. It may be stated that nearly all the candidates made applications in respect of both districts, so that the lists were very nearly the same in the case of each district. The standing order No. 89, referred to in the resolution of the Council above quoted, provides that 'the committee making the preliminary selection is (unless otherwise ordered) to submit to the Council three candidates, indicating at the same time, if it think fit, the candidate whom it recommends the Council to appoint.' In accordance with the standing order, we now state that the three candidates whom we consider most suitable for the appointment of District Surveyor for North Fulham are Mr. F. W. Hamilton, Mr. S. F. Monier-Williams, and Mr. F. R. Farrow, and the three for South Fulham are Mr. S. F. Monier-Williams, Mr. F. W. Hamilton, and Mr. O. C. Hills. Each of these gentlemen has signed a declaration that he will accept the appointment, if he should be appointed, on the terms laid down in the standing order No. 238, which provides, among other things, that he will not continue private practice. After having given full consideration to the matter, we have decided to make specific recommendations as follows :—(*a*) That Mr. Frederick William Hamilton be appointed District Surveyor for the district of North Fulham, on the conditions laid down in the Council's standing order No. 238. (*b*) That Mr. Stanley Faithfull Monier-Williams be appointed District Surveyor for the district of South Fulham, on the conditions laid down in the Council's standing order, No. 238."

Result of Legal Proceedings—Maygrove-road, Hampstead.—The same Committee reported as follows :—

"Proceedings were taken by our direction in respect of the erection of a stable, constructed of iron and wood, on land belonging to the Midland Railway Company in Maygrove-road, Hampstead, an application for the Council's licence for which structure was refused. At the hearing before the magistrate it was contended that the structure came within the exemption, contained in Section 86 of the London Building Act, from the operation of Part VII. of the Act of structures 'upon the premises of any railway company and used for the purposes of, or in connexion with, the traffic of such railway company.' This contention was based upon the fact that the structure was on the company's land, and was for the use of coal merchants who had their coal carried by the company, the horses which were stabled there being used, amongst other things, for carting the coal to the merchants' wharf on the company's premises. The magistrate decided, however, that the structure was not used for the purposes of the company, but for the purposes of the merchants' private business; that the traffic of a company meant that which was conveyed by the company, and that in the case referred to the conveyance ceased upon the coal being run into a siding, after which the coal became the property of the persons who had bought it. He therefore fined the defendants 10s., and ordered them to pay 21s. costs. The decision is of importance, as defining to some extent the meaning of Section 86 of the Act."

Proposed Court for Light and Air Cases.—Mr. Emden has put upon the notice paper the following :—

"That it be referred to the Building Act and Parliamentary Committees to consider and draft a Bill empowering the appointment of a court of assessors to whom shall be referred for decision all questions of light and air in the County of London; such Bill to embody the practice and powers of the Dean of Guilds of Edinburgh as well as such other powers as may be advisable for the better settlement of these questions and the avoidance of useless and wasteful litigation."

The Council, having transacted other business, adjourned.

* For a plan of the proposed street, see our issue for June 25.

LANCASHIRE AND CHESHIRE BUILDING TRADES:

EMPLOYERS' FEDERATION.

THE first annual general meeting of the Lancashire and Cheshire Building Trades Employers' Federation was held on the 29th ult. at the Exchange Station Hotel, Liverpool. Mr. Robert Neill, jun., of Manchester (President of the Federatiou), occupied the chair, and among a large attendance were Messrs. C. W. Green (Liverpool) and James Storrs (Stalybridge), vice-presidents; W. Marshall and G. Macfarlane (Manchester), J. S. Brown (Liverpool), John Tomlinson (Lytham), secretary, and representatives from almost all the towns in Lancashire and Cheshire. The Executive Committee's report for the half-year congratulated the members on the progress made in organising building trades' employers during the past six months. The Federation now consists of twenty-six local associations, having an aggregate membership of 1,320 firms. Negotiations were pending with St. Helens, Wigan, and St. Anne's, and it was confidently expected that these firms would shortly join. Federations are now in course of formation all over the country, and there was little doubt that the recognition by the National Association of the necessity for combination on stronger lines than has hitherto been obtained, has prepared the way for an early realisation of the hope that under one strong national federation builders would be able to safeguard the interests of their extensive industry, and obtain a better appreciation of the importance of their labours. The sawn stone question was the most important with which the executive had to deal. At their first meeting a sub-committee was appointed to consider the position of affairs, and it was decided to recommend that the policy inaugurated by the Lancashire Federation should be carried out, and an attempt be made to remove the restrictions on the free use of this class of building material. The recommendation was ultimately confirmed, with the result that on May 1 the operative masons struck work at Blackburn, Lancaster, Rochdale, Longridge, Radcliffe, Prestwich, and Preston. On May 15 they came out at Manchester and Oldham, on May 28 at Chorley, and on June 1 at Bury. It was resolved to instruct the other federated towns to pay off 25 per cent. of their union masons on May 28, and a further 25 per cent. on June 4, and on June 15 the executive board ordered notices to be posted on June 18 for a lock-out of the remaining 50 per cent. of union masons on July 9, unless the dispute was settled before that day. In the event of a protracted struggle the executive were assured of the support of the Yorkshire Federation, and of many of the quarry owners' associations.

The report was adopted, and the Chairman said that any bad feeling that previously existed had passed away. They did not object to pay reasonable wages to good men, but they objected very strongly to be dictated to in the management of their own business.

A form of building contract was adopted, and it was decided to send copies of it to architects and local associations, with a recommendation that that form be used exclusively in the building trade. A form of sub-contract and indenture of apprentices was also adopted.

A long discussion took place in reference to the dispute with the stonemasons now on strike in nine towns in Lancashire.

A sub-committee was appointed to draft a worked-stone rule, and to request a meeting with the operatives, in the hope of settling the dispute in an amicable way. If no settlement be arrived at, the notices, it was asserted, would be carried out.

The plasterers' dispute at Bury, Radcliffe, Prestwich, and Bolton was considered, and it was decided to appoint a sub-committee from the federated towns to consider the question, and to support the local associations if necessary. The resolution submitted by the representatives of the Liverpool Builders' Association condemning the limitation of apprentices was discussed, and it was unanimously decided to object to any limitation in future. The question of the increased cost which would be incurred by reason of the risks to be run under the new workmen's compensation bill was also considered, and it was decided that the architects should be approached with the view of asking them to put in a clause in their bills of quantities providing for a sum to cover such risks. It was unanimously resolved that in the opinion of the meeting responsible foremen should not be members of any trade unions, and the Secretary was instructed to obtain information to lay before a future meeting with the view of forming separate societies for foremen and builders' clerks.—*Liverpool Courier*.

THE WIDENING OF PARLIAMENT-STREET.—In the House of Commons on the 30th ult., in reply to Sir H. Fowler, Mr. Akers Douglas said: I have not yet been able to acquire the whole of the property between Parliament-street and King-street. I hope to do so within the next three months. Directly this property has been obtained the buildings will be taken down and the street widened. A plan showing approximately the proposed frontage line of the new buildings next Parliament-street and Great George-street shall be prepared and exhibited as the right hon. gentleman desires.

APPLICATIONS UNDER THE 1894 LONDON BUILDING ACT.

AT the meeting of the London County Council on Tuesday, the Building Act Committee brought up the following list of applications under the 1894 London Building Act. Those applications to which consent has been given are granted on certain conditions.*

Lines of Frontage.

Islington, North.—One-story stable erected at the rear of No. 94, Moray-road, and abutting upon Moreland-street (Mr. J. B. Pinchbeck for Mr. D. Evans).—Consent.

Lewisham.—One-story shops upon part of the forecourts of Nos. 28, 30, 30A, 32, 32A, 34, and 36, Catford Hill (Messrs. D. & R. Kennard).—Consent.

Lambeth, North.—An angle porch and oriel windows to a proposed new building on the west side of Albert Embankment (Messrs. Humphreys-Davies & Company, for Messrs. Freeth & Pocock).—Consent.

Clapham.—That the application of Messrs. Lee & Pain for an extension of the periods within which the erection of houses on the south side of Poynder's-road, Clapham Park, on part of the grounds of Bygrove House, was required to be commenced and completed, be granted.—Agreed.

Fulham.—Three houses on the east side of Parson's Green-lane, with the flank of the northernmost building to abut upon Harbledown-road (Mr. T. J. Nicols).—Consent.

Hackney, North.—That the application of Mr. P. D. Smith for an extension of the period within which the erection of a vestibule to St. Andrew's parish-rooms on the east side of Bethune-road, Stoke Newington, was required to be commenced, be granted.—Agreed.

Hampstead.—A one-story hall or parish-room, on the north side of Frognal-lane, near its junction with Finchley-road (Mr. W. Wallace).—Consent.

Hoxton.—A two-story oriel window erected in front of stable-buildings recently constructed on the north side of Craven-street, City-road (Mr. E. Newton for Mr. G. Patten).—Consent.

St. Pancras, East.—A three-story bay-window in front of No. 41, Camden-square, Camden Town (Messrs. W. F. Meakin & Son for the Rev. A. Farquharson).—Consent.

Wandsworth.—One-story shops upon part of the forecourts of four houses on the north side of Wimbledon Park-road, Southfields, westward of Gartmoor-gardens (Mr. G. W. Elwell for Mr. A. W. Gower).—Consent.

Clapham.—One-story shops upon part of the forecourts of Nos. 73 and 75, Clapham-road, Battersea (Mr. G. E. Varden for Mr. G. Burcham).—Refused.

Greenwich.†—Fifteen houses on the east side of Glenluce-road, Westcombe Hill (Mr. J. H. Haire).—Refused.

Lewisham.—A house on the west side of Bovill-road, Brockley-road, to flank upon Whatman-road (Mr. G. Trotman, for Mr. F. J. Long and Dr. Wheeler).—Refused.

Peckham.—A house, with a one-story shop, on the east side of Hall-road, to abut also upon Hichisson-road, Peckham-rye (Mr. E. J. Salter, for Mr. G. Dunton).—Refused.

St. George, Hanover-square.—An iron and glass shelter at the entrance to No. 23A, Old Bond-street (Mr. W. Wallace, for Messrs. Langfier).—Refused.

St. George, Hanover-square.—Wood and glass enclosure erected at each end of the covered balcony at the first floor level of No. 16, Curzon-street, Mayfair (Messrs. G. Trollope & Son).—Refused.

St. George, Hanover-square.—An iron and glass shelter at the entrance to the Coburg Hotel, Carlos-place, Mount-street (Messrs. Hart, Son, Peard & Co., Limited, for the Coburg Hotel Company).—Refused.

St. George, Hanover-square.—A four-story oriel window at the Ashburnham-mansions, Hay-hill, Berkeley-street (Mr. J. Macvicar Anderson for Messrs. A. Young and B. Benjamin).—Refused.

Strand.—A three-story oriel window in front of a proposed building on the site of No. 45, Wych-street (Mr. J. Webster for Mr. E. Clarke).—Refused.

Westminster.—A projecting porch and pilasters to the Gordon Hospital for Fistula, proposed to be erected on the site of Nos. 126, 128, and 130, Vauxhall Bridge-road, and Nos. 2, 4, 6, and 8, Bloomburg-street (Mr. H. E. Pollard for hospital authorities).—Refused.

Woolwich.†—A two-story store and stable at the rear of No. 163, High-street, to abut upon Bannockburn-road, Plumstead (Mr. J. Hart for Mr. H. Fenn).—Refused.

Space at Rear.

Clapham.—That the Council do, in the exercise of its powers under Section 41 (1) (vi.) of the London Building Act, 1894, allow a modification of the provisions of that Section with regard to open spaces about buildings, so far as relates to a two-story building, No. 249, Queen's-road, Battersea, erected with an irregular space at the rear (Mr. W. Garton).—Agreed.

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* Names of applicants are given in brackets. Buildings are new erections unless otherwise stated.

Wandsworth.—That the Council, in the exercise of its powers under Section 41 (1) (iii) (*h*) of the London Building Act, 1894, do not allow the erection of a row of stables on the north side of a proposed mews to lead out of Heathview-gardens, Portsmouth-road, Putney Heath, such stables to abut at the rear upon an open space (Mr. P. E. Pilditch).—Agreed.

Westminster.—That the Council do determine not to sanction the extension above the diagonal line mentioned in Section 41 of the London Building Act, 1894, of a portion of the proposed main building to be erected on the site of No. 3, Buckingham-gate, and Nos. 1, 3, 5, 7, 9, and 11, Stafford-place, and that the Council in the exercise of its powers under that section do not permit the erection of a portion of the rear of the building next Palace-street to a height of 30 ft. to the base of the gable, and with two stories in the roof (Mr. A. Green for Mr. E. J. Cave).—Agreed.

Deviation from Certified Plans.

St. George, Hanover-square.—Certain deviations from the plan certified by the District Surveyor, under Section 43 of the London Building Act, 1894, so far as relates to the proposed rebuilding of No. 6, Bruton-street, at the corner of South Bruton-mews (Mr. A. J. Thompson).—Consent.

Holborn.—Certain deviations from the plans certified by the District Surveyor, under Section 43 of the London Building Act, 1894, so far as relates to the proposed erection of a block of residential flats on the site of Nos. 33 and 33A, Red Lion-square, and No. 11, Old North-street (Mr. E. J. Stubbs for Messrs. T. Millman & Co.).—Consent.

St. Pancras, East.—Certain deviations from the plans certified by the District Surveyor, under Section 43 of the London Building Act, 1894, so far as relates to the proposed rebuilding of the "Rising Sun" public-house, No. 120, Euston-road, at the corner of Chalton-street (Messrs. Shoebridge and Rising, for Mr. W. Chapman).—Consent.

Whitechapel.—Certain deviations from the plans certified by the District Surveyor, under Section 43 of the London Building Act, 1894, so far as relates to the proposed rebuilding of No. 6, Cable-street, Leman-street, Whitechapel (Mr. I. Mason for Mrs. Matthew Lee).—Consent.

St. George, Hanover-square.—Certain deviations from the plans certified by District Surveyor, under Section 43 of the London Building Act, 1894, so far as relates to the proposed erection of a block of residential flats, with three shops on the ground floor, on the site of Nos. 12 and 13, Grafton-street (Mr. F. M. Elgood for Major G. Paynter).—Refused.

St. George, Hanover-square.—Certain deviations from the plans certified by the District Surveyor, under Section 43 of the London Building Act, 1894, so as far as relates to the proposed erection of a block of residential flats, with shops on the ground floor, on the site of Nos. 44 and 45, New Bond-street, and No. 55, Maddox-street (Mr. E. K. Purchase).—Refused.

St. George, Hanover-square.—Certain deviations from the plans certified by the District Surveyor, under Section 43 of the London Building Act, 1894, so far as relates to the proposed erection of a block of residential flats, with shops on the ground floor, on the site of No. 130, New Bond-street, and premises at the rear abutting upon Grosvenor-street (Messrs. Boehmer & Gibbs for Mr. T. L. Green).—Refused.

Line of Fronts and Width of Way.

Hoxton.—A block of water-closets and two enclosed porches to the special school at St. John's-road Board Schools, to abut upon Gloucester-row (Mr. T. J. Bailey, for the School Board for London).—Consent.

Deptford.—A warehouse at Nos. 84 and 86, Tanner's-hill (Mr. J. Webster, for Mr. W. Burrows).—Refused.

Line of Fronts and Space at Rear.

Holborn.—That consent be not given, under Section 73 of the London Building Act, 1894, to the erection of oriel windows on both frontages of a block of residential flats, with shops on the ground floor, on the site of No. 114, High Holborn, and premises abutting upon Southampton-row; that the Council do determine not to sanction the extension, above the diagonal line mentioned in Section 41 of that Act, of a portion of the proposed block of flats (Mr. A. Keen, for Messrs. Keen).—Agreed.

Width of Way and Space at Rear.

Rotherhithe.†—That the Council, in the exercise of its powers under Sections 13 and 41 of the London Building Act, 1894, do not consent to, nor permit of, and do also determine not to sanction the erection of a block of buildings, adapted to be inhabited by persons of the working class, on the west side of Elgar-street (Mr. J. S. Gaskell for the Surrey Commercial Docks Company).—Agreed.

Line of Fronts, Width of Way, and Space at Rear.

Peckham.—A porch in front of a proposed warehouse and offices on the site of Nos. 26, 28, 30, 32, and 34, Stafford-street, High-street (Mr. G. P. Smedley for Mellin's Food, Limited).—Refused.

Line of Fronts and Construction of Buildings.

Battersea.—A wood and glass photographer's show-case on part of the forecourt of No. 449, Battersea Park-road (Mr. E. Walker).—Refused.

Lewisham.—A wood and glass show-case, erected on the forecourt of No. 1, London-road (Mr. W. Hart-Gritten for Mr. R. M. Jamieson).—Refused.

Formation of Streets.

St. George, Hanover-square.—That an order be issued to Mr. E. Balfour sanctioning the formation or laying out of a mews for carriage traffic, to lead out of the south side of Aldford-street, Park-lane, for the Duke of Westminster. That the name Streets-mews (in continuation) be approved for the new mews.—Agreed.

Deptford.—That an order be issued to Mr. F. Matcham sanctioning the formation or laying out of a street to lead out of Watson's-street into Charles-street, the formation or laying out of an extension of Watson's-street, and a widening of a portion of that street (for Mr. O. Stoll). That the names Watson-street (in continuation) and Empire-place be approved for the new streets.—Agreed.

Fulham.—That an order be issued to Mr. W. C. Poole sanctioning the formation or laying out of two new streets for carriage traffic, to lead out of Fulham Palace-road into Woodlawn-road, and the widening of Crabtree-lane and Woodlawn-road (for Messrs. Allen & Norris). That the names Lysia-street and Niton-street be approved for the new streets.—Agreed.

Lewisham.†—That an order be issued to Mr. J. W. Webb sanctioning the formation or laying out of a new street, for carriage traffic, to lead out of the eastern side of Brockley-rise. That the name Rovenden-street be approved for the new street.—Agreed.

Wandsworth.†—That an order be issued to Mr. P. E. Pilditch, refusing to sanction the formation or laying out of a mews, for carriage traffic, with one entrance on the west side of Heathview-gardens, Portsmouth-road, Putney-heath.—Agreed.

Wandsworth.—That an order be issued to Messrs. Rawlings & Son, refusing to sanction the formation or laying out, for carriage traffic, of new streets on the Wandlehouse Estate, to lead out of the west side of Garratt-lane (Mr. W. F. Palmer).—Agreed.

Means of Escape at Top of High Buildings.

Marylebone, West.—That the Council, in the exercise of its powers under Section 63 of the London Building Act, 1894, do grant a certificate in respect of the means of escape in case of fire provided for the persons dwelling or employed on the fifth floor of block 8, Bickenhall Mansions, Marylebone-road (Mr. W. H. Scrymgour).—Consent.

Recommendations marked † are contrary to the views of the Local Authorities.

NEW DIRECTORIES.

"KELLY'S Directory of the Building Trades, 1898" (Kelly's Directories, Limited, 182, 183, 184, High Holborn, W.C.) is the eighth edition of a most useful work of reference, of the reliability and the excellence of which we can speak from experience. Since the last edition, the directory has increased in size, the work now extending to 2,314 pages as against 2,185 in the last issue. We are not aware that any new features have been introduced into the present edition, which, like its predecessor, comprises every trade and profession connected with architecture and building in England, Scotland and Wales, as well as in the principal towns in Ireland and the Isle of Man. The work includes lists of County Surveyors and Borough Surveyors, places in England with the names of persons carrying on business in each, arranged alphabetically in counties; places in Scotland, Wales, Isle of Man, and Ireland, with the names of persons carrying on business in each, arranged alphabetically in towns; and a list of trades, arranged alphabetically, in London and suburbs and in England, Scotland, Wales, and Ireland. In the interesting preface to the work, it is stated that there are 7,842 architects, 5,836 surveyors, and 37,815 builders engaged throughout England and Wales, the builders giving employment to 686,759 men in the subsidiary branches of the building trades, while there are 89,829 men employed in trades more or less connected with the building trade. In addition to these, there are 596,075 general labourers not otherwise particularised; also 58,567 artisans and mechanics undefined. The Directory is well printed and arranged, and is an invaluable work of its kind.

"The City of London Directory for 1898" (London: W. H. & L. Collingridge, *City Press* Office) is the twenty-eighth annual edition of an excellent work containing exclusive information respecting the City, its streets, trades, local government, Livery and other Companies, charities, &c. The official section contains information concerning the lately-constituted Public Health Department, which has taken over the work of the late Commissioners of Sewers, and the same section gives particulars of the City churches. The Livery Companies Guide supplies exclusive information — the names and addresses of the masters and courts of assistants, engravings of the arms, the historical accounts of the foundation of the companies, their ancient powers and present privileges, and their charities. The Biographical Section has been extended by the addition of the portraits and biographies of many of the masters of the Livery Companies, Aldermen, and principal officers of the Corporation. The devastation caused by the Cripplegate fire is duly taken cognisance of. The fire caused the displacement of about 150 occupiers in Jewin-street, Wells-street, Hamsell-street, and adjoining thoroughfares; the new addresses of all these are given, and, for convenience of tracing them, the position of the buildings before the fire has been retained, the new addresses in which the businesses are now carried on being set forth. There have been several improvements in the streets and by-ways of the City during the past twelve months, and these have been noted upon the very useful map given in the Directory. The route of the City and South London Railway is indicated, showing the two City stations, Moorgate-street (entrance from Finsbury-pavement), and King William-street, at the corner of Lombard-street under the Church of St. Mary Woolnoth. The information contained in the Directory is both exhaustive and reliable, and in the City the work must be as indispensable as the Post Office London Directory is for the whole of London.

The "London Manual, 1898-99" (Edward Lloyd, Limited, Salisbury-square, E.C.), contains an introduction by Sir Walter Besant and a full account of the work carried on by the public authorities engaged in governing the Metropolis. This year's issue, which includes a useful list of all the members of public bodies in London, is illustrated. The "Manual" is well arranged, and appears to be thoroughly up to date and reliable.

BOOKS RECEIVED.

THE ENGLISH FLOWER GARDEN. By W. Robinson (John Murray).

MY HOME, AND HOUSEHOLD COMPENDIUM. By J. W. Jarvis and W. J. Woods (Simpkin, Marshall, & Co.).

ARCHITECTURE AMONG THE POETS. — By H. Heathcote Statham (B. T. Batsford).

IRON AND STEEL BRIDGES AND VIADUCTS. — By Francis Campin, C.E. (Crosby Lockwood & Son).

SEWER CONSTRUCTION.—By W. H. Maxwell (Hodgetts).

Correspondence.

To the Editor of THE BUILDER.

TUDOR-STREET ANCIENT LIGHT CASE.

SIR,—In further illustration of your report of this case, and of the effect of Mr. Justice Kekewich's judgment, the following details may be of interest:—

The plaintiffs' building is on the north side of Tudor-street, which is 40 ft. in width; the defendants' building (of which Messrs. Goodey & Cressall, of Colchester, are the architects) is on the south side, and is distant from the plaintiffs' building 52 ft. in a lateral direction of 50 deg., and 32 ft. distant from a point directly opposite to the plaintiffs' windows. The judgment is that lateral light at an oblique angle in a fairly wide street must be preserved by the pulling down of a new building (which was not erected in defiance of any undertaking) to a level which will leave 68 deg., so that in Tudor-street, which is 40 ft. wide, a new building opposite to the end of another street is limited in height to 30 ft. by an ancient light, 32 ft. away from it laterally. This decision seems to establish new data for the practice of surveyors, and to encourage the multiplication of claims from distant neighbours. BERESFORD PITE.

LIBRARIES OF THE MIDDLE AGES.

SIR,—The interesting discussion on the origin of the modern bookcase raised by Mr. Jackson in his paper recently at the Institute, and referred to afterwards by Mr. Willis Clarke, reminds me of some bookcases in St. John's College, Oxford, which may be even earlier examples than those at Lincoln quoted by Mr. Clarke as having been designed by Wren in 1675.

The Inner Library at St. John's was added by Laud in 1631-5, and although the west wall has the windows at close intervals in unison with the Old Library (1596) adjoining, the opposite wall, which forms the famous garden front of St. John's, has blank spaces 11 ft. long between the windows. When this library was gutted and Gothicised with oak-grained plaster roof and oak-grained stucco angels by Blore, about 1840, the old bookcases were sold by auction, and fetched 30s. each! Luckily one of them was bought by the President, and is still to be seen in his lodgings. It appeared to me to be contemporary, and certainly bears a most elaborate display of Laud's arms and crest worked into the open work of the bronze panels forming the doors. That these cases were actually made at the time the library was built I have no certain knowledge, but from the fact that the walls of the room appear suited to such cases, and that the room was avowedly prepared for the manuscripts and smaller books, and judging from the cases themselves, of which I enclose a tracing, I should say they must date nearly, if not quite, as early as 1635—the time when the building was opened.

Possibly a reference in the State Paper Office to the rough draught of Laud's plan for his building might give some information on the point. The document is endorsed "*Mye intention for charitye soe soon as God shall make me able*," and, judging from an extract, goes very thoroughly into details.

The original bookcases in the old part of the library are interesting examples of the two-shelved case—no doubt arranged for chains—raised at a later period by a couple of additional shelves. The seats and desks are all complete, and are, I think, finer examples than those in the more famous and undoubtedly finer room of the Merton Library.

F. W. TROUP.

The Student's Column.

SOUND, LIGHT, AND HEAT.—II.

SOUND: PRELIMINARY CONSIDERATIONS.

BEFORE attempting to make practical use of what is known of the science of sound, it will be well to consider what sound is.

We may remind the student that the term "matter" is applied to anything which possesses weight, and to anything that can receive and communicate motion, and to anything that can affect our senses. The word "substance" is synonymous with "matter" in the scientific sense. Matter is divisible into three classes, viz.: solids, liquids, and gases. There being many properties possessed by the last two classes which may often conveniently be considered together, these two are frequently designated by one term only—"fluids." When we use the last-mentioned word, therefore, the student will perceive that we do not necessarily mean "liquids."

An elementary acquaintance with "bodies" soon shows us that the matter of which they are made is not perfectly continuous, but is composed of extremely minute parts, which, although well known to be present, cannot only be theoretically defined. The smallest conceivable part of matter is called an "atom," and it is very necessary to our inquiry that the following, concerning atoms, should be constantly borne in mind. An atom cannot be divided, and it is never, in any form of matter, joined to another atom; there is always a space between them. This at first sight appears a little difficult to comprehend, and the circumstance that it is generally understood that this space or distance is great as compared with the size of the atoms does not assist the perception very much. No one has ever seen an atom, nor, of course, the inter-atomic distances referred to. The whole is assumed, but the grounds for the assumption are so great and the theory so well founded, as explaining so much in both physics and chemistry, that in the absence of anything better we are compelled to give a large amount of credence to it. At any rate, so far as this elementary series of articles is concerned, we shall regard the assumption as an actual fact.

A "molecule" is made up of two or more atoms, but here, again, we cannot see a molecule; the smallest groups of molecules we can actually obtain and observe are called "particles." The student is cautioned not to employ or think of these terms loosely, as one is frequently apt to in every-day conversation. A "particle" has a distinct meaning in physics.

To recapitulate, the smallest artificially obtainable particle of matter—whether solid or

fluid—is composed of molecules which are themselves constructed of atoms not joined together, but separated from each other. We shall presently have occasion to speak of the moving of these atoms and molecules within masses or particles of matter. Then it will be seen, constructively, that no matter how rigid a body may seem, it is in reality composed of molecules which are ever at work, or are at least potentially workable. Unless this is thoroughly appreciated, we shall not be able to understand what sound is.

Molecules are very peculiar things. In order to make a "body" they must of necessity be controlled to some extent, and that controlling power is termed "molecular force," which holds them in position. The application of this force permits them to present themselves in various states of aggregation, which may thus be summarised: when the relative positions of the molecules of bodies are *fixed* and cannot be altered without the application of exterior force, those bodies are said to be solid; when the relative positions are *not fixed*, but the molecules can easily glide over each other so as in the aggregate to be able to take on the form of any vessel in which they may be placed, those bodies are termed liquid; and when the mobility of the molecules is still greater than in liquids, and the bodies are incessantly struggling to occupy a greater space, being dependent in that respect upon pressure, such bodies are called gases.

We will now pass on slowly to discuss some of the general properties of matter. The principal of these are divisibility, porosity, extension, impenetrability, inertia, weight, compressibility, and elasticity. All bodies can be divided into smaller parts; though there appears to be a limit to this when we arrive at the exceedingly minute atoms which are assumed to be indivisible. Porosity is a property where interstices or pores exist between the molecules; liquids have no pores (as that term is commonly defined), but spaces exist all the same between the molecules of which the liquid bodies are composed. The property of extension is demonstrated by the fact that every body occupies a limited portion of space. Impenetrability implies that no two portions of matter can at the same time occupy the same space. Inertia is a negative quality of matter, by virtue of which it is incapable of changing its state of rest or motion. Thus, if at rest, some external force must be employed to make it move; and if in motion it would keep moving for ever and in the same direction as that initially imparted to it, provided all resistance were removed. To take an illustration: A ball having been thrown upward there would be no reason why it should not continue in the same direction for ever if it were not overcome in its motion by the operations of gravity and friction, which compel it to return to the earth. All bodies possess weight, which property is the result of the earth's attraction on the particles composing them.

As a consequence of porosity, bodies are "compressible," *i.e.*, their volume may be diminished by the application of pressure. Gases are the most compressible, solids less so, and liquids least of all; indeed, the last mentioned possess this property only to a very small extent.

The property of "elasticity" is, perhaps, the most important to us in studying the theory of sound. It may be defined as being due to bodies resuming their original form or volume when a force which altered that form or volume ceases to act. Elasticity may be developed by pressure, twisting, bending, or pulling. Fluids are perfectly elastic; solids are only partially so, and that within wide ranges of variation. In other words, there is a limit to the elasticity of solids; if that be exceeded they either break or will not return to their original form. It is known technically as the "limit of elasticity." Many substances are readily recognised as being elastic—caoutchouc for instance; others regain their original form and volume so readily and with lightning-like rapidity, that the actual deformation and springing back are only with difficulty recognised. Atkinson* mentions an easy experiment to demonstrate elasticity in such bodies as these. If a ball of ivory, glass, or marble be allowed to fall upon a slab of polished marble, which has been previously slightly smeared with oil, it will rebound and rise to a height nearly equal to that from which it fell. On afterwards examining the ball a circular blot of oil will be found upon it, more or less extensive according to the height of the fall. From this we conclude that at the moment of the shock the ball was flattened, and that its rebound was caused by the effort to regain its original form. The slab of marble would also, to a limited extent, be affected at the point of impact.

To demonstrate that a gas is readily elastic, let us take a vessel containing, say, 3 cubic feet, and compress the gas into the space of 2 cubic feet. Considerable pressure will be required to do that, and the gas will exert great force from within, so much so that unless the vessel containing the gas is very strong it will be burst to pieces. This is an attempt on its part to regain its original volume. If now the pressure be removed the gas will resume its original form and volume—proving its perfect elasticity. From a consideration of the compressibility of gases, which, as we have seen, is closely connected with their elasticity, we have it laid down in Boyle's law that "the volume of a gas varies inversely as the pressure to which it is subjected when the temperature remains the same."

And now we come more directly to the consideration of what sound is. Briefly, it may be stated as the "result of rapid oscillations imparted to the molecules of elastic bodies when the state of equilibrium of these bodies has been disturbed either by a shock or by friction. Such bodies tend to regain their first position of equilibrium, but only reach it after performing, on each side of that position, very rapid vibratory movements, the amplitude of which quickly decreases. . . . Physiologically, sound is the sensation excited in the organ of hearing by the vibratory motion of bodies, when this motion is transmitted to the ear through an elastic medium" (Atkinson). That sound is really the result of vibration may be readily demonstrated: Take a bell jar and strike it smartly; it emits sound, which, however, can be immediately stopped by pressing a finger on the outside rim or edge. The vibrations can be distinctly felt as the finger is placed in that position. Again strike the jar, and holding it horizontally, place a small piece of metal within, when the latter will be seen to be violently shaken, the movement being imparted to it by the vibrations emitting the sound, and the quality of the sound is to some extent modified by the metal fragment. The vibration of the strings of the harp and other musical instruments may also be referred to in this connexion.

Sound is propagated in all elastic bodies, but not *in vacuo*. A pretty experiment is usually made to demonstrate this. A bell continually struck by a clockwork arrangement is placed in the receiver of an air-pump. The sound is distinctly heard outside; but, if the air be withdrawn from the receiver, no sound will reach us, though we can see that the bell is still being struck. On the air being gradually readmitted we at first hear a faint sound of the bell, which sound becomes stronger as the air is more fully admitted. Conversely, in proportion as the air is withdrawn, the sound becomes feebler. The propagation of sound in air will be more fully considered in the next article; but the student can doubtless already see that its transmission is to a large extent governed by the state of the air, and that a medium of some density is requisite for its successful propagation. It is too early yet to apply this fact practically to the interior of buildings, as so many other points not touched upon have to be considered in the same connexion; but, *cæteris paribus*, with a hall crowded with people and bad ventilation, the state of the air may be such as to distinctly modify the quality or intensity of sound propagated within it; we will not say more than that at present.

*Ganot's "Physics," 1893 ed., p. 9.

GENERAL BUILDING NEWS.

CHURCH, IPSWICH.—The foundation-stone has just been laid of the new St. John Baptist's Church, Ipswich. Sir Arthur Blomfield is the architect. The outer and interior walls will be of red brick, with Monk's Park stone dressings, the roof being of pitch pine, with Broseley tiles. The interior will consist of a nave and side aisles, a clergy vestry at the north-east corner communicating with a choir vestry, and underneath will be a heating vault, for warming the church by means of hot-water pipes, passing under gratings in the wood-block floor. At the opposite corner will be the organ chamber, the chancel being situated midway. There will be four entrances—two on the west side on either side of the baptistry, one at the south-east corner, and one by the clergy vestry. The roof of the nave will be supported off the clearstory walls, and the pillars dividing the nave from the aisles will be of red brick, alternately circular and octagonal. The chancel, 36 ft. by 25 ft., will be approached from the nave, which is 91 ft. long by 28 ft. 6 in. wide, by four steps. There will be one step from the chancel to the Communion table, on the south side of which will be a sedilia, of Monk's Park stone, with marble shafts. Cathedral glass will be utilised for the windows. A four-light window at the west end will be placed immediately over the roof of the baptistry, and this portion of the façade will be completed by a bell-turret, with provision for two bells and a weather vane. Ample accommodation will be provided in the vestries—that for the choir being 16 ft. square, and that for the clergy slightly smaller. The space allotted in the organ-chamber is 18 ft. by 11 ft. 9 in. The pulpit will be carved in oak, the font being of stone, with marble shafts. Only a portion of the body of the church is to be constructed at first, providing seating accommodation for about 600.

CHURCH OF ST. PATRICK, BALLYMACNAB, ARMAGH.—This building has just been dedicated by Cardinal Logue. The new church has been designed by Mr. J. J. M'Donnell, of Belfast, and the work has been carried out by Mr. James Hughes, contractor, Newry. It consists of nave, sanctuary, side chapel, sacristy, and porch. The sanctuary, which is semi-octagonal in form, is lighted with three two-light mullioned and traceried windows. The materials used are a local stone and Armagh limestone, which is used as a dressing to the windows and otherwise. The roof is of pitch pine.

RESTORATION, ST. PETER'S CHURCH, BARTON.—The outlay on the restoration of this church has been about 1,900*l.* Mr. C. H. Fowler, F.S.A., was the architect. The alterations consist of the building of a new clergy vestry, the addition of an organ aisle, the restoration of the ancient oak tower, the rebuilding of the wall leading to the church, and widening of the path to the south door, taking the old plaster from the north, south, and east walls of the nave, and pointing the stone work of the same. A new organ, by Messrs. Forster & Andrews, of Hull, has also been put in at a cost of 850*l.* Besides a gift of 1,000*l.* by Mrs. Holt, the same lady gave a special sum of 250*l.* for the restoration of the screen. Other gifts by Mrs. Holt are new oak altar rails, which have been made by Mr. John Potts, of Barton. Canon Moor, of Gainsborough, has given a new carved oak pulpit.

MISSION CHURCH, NEW HOUGHTON.—A mission church, which has been erected at a cost of over 1,100*l.*, has just been opened at New Houghton, Pleasley. The architect was Mr. P. H. Currey, Derby, and the builder, Mr. J. Warner, Pleasley.

PARISH CHURCH EXTENSION, LEAMINGTON.—On the 30th ult. the Mayor of Leamington laid the corner-stone of the new nave and bell-tower of the Leamington Parish Church. When the work, for which Sir Arthur Blomfield is the architect, is completed, the nave will be about twice its present length, and the seating accommodation will be considerably increased. The new tower, in which it is intended to place the peal of six bells, will stand at the south-west angle of the church. It is estimated that the whole work of restoring and completing the church will cost 15,000*l.*

CHURCH, WREXHAM.—A new church, dedicated to St. Peter, was opened at Rhosrobin recently. The church has been built of brick at a cost of nearly 1,500*l.* It will accommodate 230 people The builders were Messrs. Rogers & Son, Brymbo, the architect being Mr. J. H. Swainson, Wrexham.

CHAPEL, MILL HILL SCHOOL.—At the celebration on June 22 of "New Foundation Day," the new chapel was opened with an appropriate service. It was erected at a cost of 6,000*l.* from the plans and designs of Mr. Basil Champneys.

CHURCH, ST. LUKE, WEST HAMPSTEAD.—The memorial stones of the new church for this parish, formed in 1896, were laid on June 18. The estimated cost of the church is 11,560*l.* The architect is Mr. Basil Champneys.

QUEEN'S CROSS FREE CHURCH, GLASGOW.—The memorial-stone of Queen's Cross Free Church has just been laid. The church, which is situated at the corner of Garscube-road and Springbank-street, is being built from designs prepared by Messrs. Honeyman & Keppie, architects. The principal feature of the building is a tower placed at the corner of the two streets. This is flanked in the Garscube-road by the transept gable, and in Springbank-street by the window of the choir chamber. The building will provide accommodation for 790 sitters and a choir of thirty members. There is a transept and back gallery, and behind and at the side of the pulpit are the organ-chamber and seats for the choir. At the back of the church is a hall seated for 260 persons. The estimated total cost for site and buildings is about 8,900*l.*

THE PROPOSED METHODIST FREE CHURCH, WHITWOOD MERE, CASTLEFORD, YORKSHIRE.—It is proposed to erect at Whitwood Mere a memorial church and Sunday school for the United Methodist Free Church. The church is designed in the Gothic style, to be erected in brick with stone dressings, and the principal roofs covered with green Westmoreland slates. The principal feature of the elevation will be a square tower with spire, placed at the corner. Vestibules lead into the body of the chapel, which will accommodate 300 worshippers. A gallery for sixty people is provided over the entrance, and a special gallery for

the choir at one side near the rostrum. The organ chamber is placed over the minister's vestry. The seating will be of pitch pine. The site will also allow of a Sunday school of two stories, with class-rooms, &c., being erected at some future time. The contractors for the work are :—Brick and mason work, Messrs. R. Walker & Sons; carpenter and joiner, Mr. William Holland; slater, Mr. S. Evison; plasterer, Mr. Beighton; plumber and glazier, Mr. Bateson; painter, Mr. Watson; and the architect is Mr. Arthur Hartley, of Castleford.

SUNDAY SCHOOLS, LEEDS.—The new Sunday schools which have been built at a cost of 6,600*l.* in connexion with Oxford-place Wesleyan Mission, Leeds, were opened on the 28th ult. The erection of the schools is only part of a scheme which also includes the building of a lecture or synod hall and the re-modelling, re-seating, and renovating of the chapel, and the introduction of the electric light. The new buildings, which have been designed by Mr. G. F. Danby and Mr. W. H. Thorp, comprise a schoolroom, 64 ft. by 34 ft., having an open timbered roof, and capable of seating 650 people, fourteen class-rooms, and accommodation for social and evangelistic work. The contractors were Messrs. W. Thompson & Sons, Mr. G. Thompson, Mr. H. Pearson, Mr. Thos. Harrod, Messrs. Holmes & Co., and Messrs. J. & H. Smith.

FREE CHURCH, FOCHABERS, MORAYSHIRE.—Plans prepared by Messrs. D. and J. R. M'Millan, architects, Aberdeen, for the proposed new Free Church at Fochabers have been sanctioned by the deacons' court.

FERME PARK CHURCH, HORNSEY, N.—Designs were recently invited from four architects for this building, and those submitted by Mr. George Baines, of 5, Clement's-inn, Strand, W.C., were adopted. The general plan of the church is a Greek cross, with wood vaulted ceiling, carried up to a higher section in the central crossing, with an air trunk therefrom to an external roof ventilator. The central crossing is divided from the four arms by a four-centred Gothic arch and a moulded stone arch, while stone shafts carried up from the floor with moulded caps and bases, divide the body of the church from the organ chamber behind the pulpit. The front of the gallery for the organ will be of open traceried woodwork. A late period of Gothic architecture has been adopted, which will harmonise with the existing school chapel. The church will be faced with red bricks, with warm buff terra-cotta dressings, quarry lights to the windows, and green slates to roofs. Internally, the four main central arches, and the arches from same to the four arms, will be supported by four red polished granite columns, having moulded stone bases and moulded and carved capitals, and these columns will assist in supporting the galleries on three sides, which are grouped round a wide central well. The pulpit is placed in the centre. In front of the pulpit, and partly under it also, is a white marble open baptistry, with marble steps and curb, and oak-moulded handrail in front, supported on wrought-iron and brass standards. Steps from the baptistry lead down on each side from the aisles, and steps up under the pulpit lead direct to two separate vestries, as dressing-rooms. Heating will be by hot water apparatus. The accommodation provided is as follows :—On ground floor 656 sittings, in galleries 464. The floor of the church slopes up from the pulpit end to the back. Two large vestries are provided in addition to the two dressing-rooms behind the baptistry. There are two ante-rooms or cloak-rooms also connecting the church with the existing lecture hall and school chapel. There are six separate exits from the ground floor and three from the galleries. There is a tower with curved roof and wrought iron finial at one corner externally, and a lower turret roof of similar outline at the other corner of main front, with gable between. The seating and gallery fronts will be of selected pitchpine varnished. The contract for the whole scheme, including boundary walls, gates, railings, &c., is 8,643*l.*, and is taken by Mr. William Shepherd, Bermondsey New-road, S.E.

SCHOOL, DOUGLAS, ISLE OF MAN.—The foundation stone of the Murray's-road new Board School, Douglas, has just been laid. The school building is placed upon the upper part of the site, and is two stories in height, and advantage has been taken of the fall of the ground to place a lower floor under one-half the building, this lower floor containing rooms for technical instruction, for laundry work, and for cookery classes. On this floor provision is also made for the caretaker's stores, and at the proper level for the heating apparatus. In connexion with the cookery class-room a scullery is provided, and a private room for the teacher. The ground floor contains accommodation for 400 in the infants' department and for 100 junior scholars, with a central hall 80 ft. long and 30 ft. wide. The first floor contains accommodation for 500 junior and senior scholars, and has a central hall of similar dimensions to that on the floor below. On each floor and in the mezzanine floors provision is made for the private rooms of the teachers in each department, and for lavatories and cloak-rooms. Separate entrances are given for the infants, the boys, and the girls, and these are placed at each end of the building. The architect is Mr. J. Mitchell Bottomley, of Leeds. The clerk of the works is Mr. Robert F. Douglas, and the contractors for the whole of the work are Messrs. Kelly & Preston, all of Douglas. The contract amounts to the sum of 7,911*l.* 11s. 9d.

PUPIL TEACHERS' COLLEGE, LIVERPOOL.—The Lord Mayor of Liverpool (Alderman John Houlding) has just opened the new Pupil Teachers' College which has been erected in Clarence-street, Liverpool. The new institution is estimated to have cost over 17,000*l.* The college has a frontage to Clarence-street and Pleasant-street, with an entrance for female students from each of these streets. The male students' entrance is from Green-lane. The main elevations are executed in buff terra cotta and pink brick of specially selected tints. Adjoining the college in Clarence-street is the principal's residence, now in course of erection. The class-room accommodation provided is for 569 students on the ground and first floors. This is exclusive of the science department, which, with the art class-room, occupies the whole of the top or second floor. The lowest floor is a half-basement, containing a tea-room 58 ft. by 24 ft., a recreation-hall, accommodation for cloaks, lavatories, &c., store-room, heating apparatus, &c. There are separate entrances and staircases for female and male students, giving free exits and entrances. One of the female students' entrances is from Pleasant-street, and communicates both with the basement and ground floor. Another entrance will be from Clarence-street, incorporated with the principal's house. The class-rooms accommodate from thirty-five to sixty students each, and two pairs of fifty can be thrown together by sliding glass partitions. The scienc department contains a chemical laboratory, 60 ft. by 23 ft., giving accommodation for forty-eight students, with storage and preparation rooms, balance-room, and science teachers' room in connexion therewith. There is also a lecture and examination room, 51 ft. by 25 ft., divisible by a roller screen. The art class-room is 37 ft. by 23 ft. An office for the principal commands the entrance for the female students from Pleasant-street. The artificial lighting is by electric incandescent lamps suspended in clusters of three. The rooms are heated by hot water pipes, and the corridors by means of radiators on the low-pressure system. Open fireplaces are also provided. The buildings have been designed and erected under the supervision of Messrs. T. Mellard Reade & Son, architects, Liverpool, and the work has been carried out by the late Mr. Samuel Webster, Bootle.

UNDERGROUND LAVATORIES, BIRMINGHAM.—The construction of underground lavatories, &c., in High-street (Bull Ring) and Corporation-street (Old-square) has been commenced by the Birmingham Public Works Committee. In each case there will be a department for ladies. The larger of the two lavatories is that which is being provided on the open space between the Nelson statue and St. Martin's Church. The total cost of the two buildings will be about 4,000*l.*

VICTORIA CLOCK TOWER, RIPON.—The Victoria Clock Tower, Ripon, has been erected at the junction of the Palace and North-roads. The building has been erected from the designs of Mr. George Corson (Messrs. Corson & Jones, architects, Leeds). The structure is 10 ft. square, and rises to a height of 43 ft., culminating in a Crown Imperial in copper. At the angles are four octagonal buttresses, which rise above the parapet in pinnacles, with carved finials and crockets. From these spring four flying arches or buttresses, and from four smaller pinnacles, corbelled out over the dials, spring other four. These eight unite in a keystone or carved boss, which carries the stone terminal on which the Crown Imperial rests. There are four dials enclosed within circular moulding within squares, the spandrils carved. On the stage below that of the clock the statue of the Queen occupies a canopied niche on the side fronting the city. Her Majesty is represented in a sitting position, the statue, as well as the rest of the carving, having been executed by Mr. Milburn, of York. The Royal Arms, the arms of the diocese of York, and those of Ripon occupy the other sides. The stone used in the building is from the Dunhouse Quarries, near Darlington, the builders being Messrs. W. Wilson & Sons, of Headingley. Messrs. Potts & Sons, of Leeds, have provided the clock, with its four illuminated dials.

STATION HOTEL, INVERNESS.—Alterations and additions have just been completed at the Station Hotel, Inverness, for the Highland Railway Company. Messrs. Ross & Macbeth, of Inverness, were the architects. The contractors for the various departments of the work of renovating the hotel were :—Mason, Thos. Macdonald; carpenter, William Macdonald; plasterers, Fowler & Kennedy; plumbers, Black & Son; painter, Thomas Tulloch; heating, Mackenzie & Moncur, Edinburgh; inspector of works, Mr. J. Ross, Inverness.

NEW BRIDGE, SHEFFIELD.—The Corporation of Sheffield propose to construct a new bridge over the River Don at Ball-street, Sheffield. The bridge will be of arched steel girders on stone piers, and the plans and quantities have been prepared by Mr. Charles F. Wike, the City Engineer. The tender of Messrs. Braithwaite & Co., of Leeds, amounting to 9,087*l.* 15s. 4d., has been accepted.

THEATRE, DUDLEY.—The foundation-stone has just been laid of the new theatre in the Birmingham-road, Dudley. The theatre is estimated to cost over 16,000*l.* Mr. A. Ramsell is the architect, and Messrs. J. H. Whittaker & Company are the contractors.

HOTEL OSBORNE, MAYFAIR.—A site has been taken on the east side of Berkeley-street for a new hotel to be built in connexion with the Princes Hotel at Brighton. The architects are Messrs. J. T. Wimperis & Arber, and the premises will overlook the gardens of Devonshire House, Piccadilly, and Lansdowne House, Berkeley-square.

MARYLEBONE WORKHOUSE.—The old block of buildings facing Marylebone-road is being dismantled to make room for a fresh extension of the workhouse which will be erected after the plans and designs of Mr. A. Saxon Snell. The parish workhouse and infirmary were built on the present site in 1775, the frontage being set back from the New, now Marylebone, road, as laid out in pursuance of the Act, 29 Geo. II., c. 88, of 1756, which prohibited the erection of buildings in that thoroughfare within 50 ft. from the roadway.

BRADFIELD COLLEGE.—The Council invite subscriptions for the completion of the chapel, of which the western portion was built in 1892-3, after Mr. J. Oldrid Scott's plans and designs. The original design provides for a capacity of 450 persons, and it is hoped that a sum of 5,000*l.* will be collected and the building be finished before July, 1900, the fiftieth anniversary of the founding of the school.

THE BIRKBECK BANK.—The directors have secured the site and buildings of Nos. 326-32, High Holborn, next east to Middle Row-place, for the frontage of an extension of their new buildings which have been erected, and are now nearly completed, after the plans and designs of Mr. T. E. Knightley, the terra-cotta work being from Messrs. Doulton's. A conspicuous feature of the plan is a spacious rotunda, to serve for public banking purposes, decorated with paintings, and having a gallery, resting upon massive brackets covered with glazed pottery-ware around the base of the dome; provision is made for surrounding with water the deed-room in the basement. A reference to the text and illustrations of a recent article in our columns* will show that the High Holborn portion of the bank will occupy in part the site of Southampton House, formerly the town inn of the Bishops of Lincoln, who bought it from the Templars.

TECHNICAL SCHOOL AND FREE LIBRARY AND MUSEUM ADDITIONS, LIVERPOOL.—Sir William Forwood, chairman of the Library, Museum, Art, and Technical Instruction Committee of the Liverpool City Council, laid the foundation-stone, on the 1st inst., of an addition to the range of buildings (the Brown Library and Museum, the Picton Reading Room, and the Walker Art Gallery) on the north side of William Brown-street in that city. The new structure, which is estimated to cost the Corporation close upon 100,000*l.*, will provide additional accommodation for the museum besides a central technical school. The three lower floors, reached from a separate entrance in Byrom-street, will be devoted to the purposes of the Liverpool School of Science, Technology, and Art. In the basement will be rooms for practical instruction in electricity, engineering, and various other technical subjects. Above this will be a lecture-hall, capable of accommodating nearly 400 students, besides class-rooms for various subjects, and the necessary administrative offices. On the floor above this again will be a number of other class-rooms, adapted for instruction in mathematics, building construction, &c.; and in a cross gallery on a higher level (isolated from the other portion of the school) will be a chemical laboratory and lecture-room. Mr. E. W. Mountford is the architect. For illustrations of the additions, see our issues for August 8, 1896, and January 2, 1897.

CLOCK TOWER, IRTHINGTON CHURCH.—New church tower, clock, and bells have just been dedicated at Irthington Church by Bishop Barrow, who also consecrated an addition to the churchyard. The tower is in the Late Gothic style, and is provided with a clock. It is about 60 ft. in height and about 17 ft. square. Mr. Taylor Scott, of Carlisle, was the architect. The tower has been erected of red sandstone, from the parish quarry of Three Horse Shoes. The five bells were cast by Messrs. John Warner & Sons, London. The clock has been constructed by Messrs. Wm. Potts & Son, of Leeds and Newcastle. The work has been carried out by Mr. Robt. Mark, builder, of Laversdale; the oak-work and general joiners' work by Mr. William Edger, of Brampton; plumbers' work and lead lights by Mr. William Anderson, of Carlisle; and painters' work by Messrs. Atkinson & Elliot, of Brampton. Mr. J. F. H. Harriman, of Carlisle, has been clerk of works.

ALTERATIONS TO THE THEATRE ROYAL, JARROW.—Internal alterations and improvements have just been carried out at the Theatre Royal, Jarrow. The entire building has been gutted. The pit has been lowered some 12 ft., so as to bring it to the ground level. The auditorium is 53 ft. long by 45 ft. wide and 37 ft. high. The stage is 47 ft. by 30 ft., while the proscenium arch is 22 ft. wide by 23 ft. in height. Eight dressing rooms have been provided. In the pit and stalls there is accommodation for 700 people, in the boxes for 350, and in the gallery for 500, making a total seating accommodation of 1,550. There are four private boxes—two on either side of the stage. The building is heated throughout by means of hot water. The architects

* "The Patent Office Buildings and their Site," April 9, 1898, pp. 342-4, *ante*.

have been Messrs. James Henderson, jun., and John Hall, of Sunderland; Mr. J. S. Earnshaw, of Sunderland, has been the general contractor; and Mr. W. R. Dodds, of Jarrow and Newcastle, has been responsible for the decorative plaster work.

BRANCH LIBRARY, BALHAM.—The Balham Branch Library, erected by the Streatham Public Libraries Commissioners, is situated in Ramsden-road. The first portion, which has just been opened, consists of reading room and a lending department. It is intended to extend the building subsequently by erecting a large lending library behind the present structure. The architect is Mr. Sidney R. J. Smith, and the contractor is Mr. Walter Wallis, of Balham.

CLEVELAND ASYLUM, MIDDLESBROUGH.—This building, which has been erected in Marton-road, Middlesbrough, was recently opened. The cost of the asylum has been about 100,000*l.* The entrance is from Marton-road, whilst for the delivery of goods by rail a siding has been provided on the Middlesbrough and Guisborough branch of the North-Eastern Railway, which railway forms the boundary to the estate on the north-east side. The wards in the present buildings provide accommodation for 250 patients, 125 of each sex. The administrative offices, which are designed to admit of the asylum being extended to accommodate 150 more patients, are placed centrally, with the patients' blocks on either side. They comprise the official block, recreation hall, kitchen offices, steward's stores, and bakery. The official block, or front offices, is a two-story building, placed centrally in the front. Immediately to the rear of the front offices are the visiting-rooms, dispensary, and chaplain's room and library. The recreation hall is 60 ft. 4 in. by 39 ft. 9 in., with a stage 35 ft. 9 in. by 15 ft. At the back of the stage there are two dressing-rooms. Separate approaches are provided to the hall from either side of the building, beside which there are additional emergency exits. Between the hall and the kitchen offices are a serving-room and scullery. The steward's stores are at the back of the administrative offices, and extending under the main store is a cellar. As in the kitchen offices, provision is made for separate service to either side of the building. Abutting on the stores is the goods delivery yard, at the entrance to which is the weighbridge. The bakery adjoins the stores delivery yard. The patients' blocks are placed to the right and left of the administrative offices. The blocks comprise four wards on each side, being duplicates of each other. Each of the wards is self-contained, and is worked independently of the others. All the day rooms have southerly aspects, whilst the whole of the dormitories are cross ventilated. The water-closets and other sanitary fittings are placed in spurs, shut off from the wards by cross ventilated lobbies. The staircases provide two exits from each ward in case of fire. At the back of the male wards, and looking into an inner court, are the tailors', shoemakers', and upholsterers' workshops, and at the rear of these workshops are the builders' workshops, comprising shops for carpenter and joiner, smith and plumber, painter and glazier, and foreman's office. On the female side in a corresponding position to the builders' workshops is the laundry. The general laundry contains a wash-house, ironing-room, drying closet, receiving rooms, and distribution rooms. At the back of the general laundry is a foul linen wash-house with separate drying room. Adjoining the general laundry is the officers' laundry, consisting of wash-house, ironing room, and drying closet. Adjoining the laundry is an open asphalted drying-ground. Separated from the laundry by the covered way is the serving-room and matron's store, and cutting-out room. At the back of the laundry is the boiler-house block. The superintendent's house is practically a detached building, being only connected to the main building by a narrow corridor. The detached hospital for the treatment of infectious cases provides accommodation for ten patients, five of either sex, with the necessary rooms for the nurses and caretaker. The kitchen offices and laundry are placed centrally at the back of the wards. The chapel is detached, and consists of a nave, chancel, organ-chamber, and vestry. It affords sitting accommodation for 204. The farm buildings are situated between the main buildings and the hospital. The garden buildings are placed in the kitchen-garden. The mortuary is a detached building. Lodges are provided at the front entrance to the asylum grounds, and at the entrance to the yard for the delivery of stores. The whole of the wards and other portions of the buildings occupied or used by the patients and staff are, in addition to open fireplaces, heated by hot water on the low pressure principle. The work has been carried out by the following contractors, viz.:—Excavator, bricklayer, and mason, Messrs. Bastiman Bros, Middlesbrough; carpenter and joiner, Mr. R. T. Snaith, Darlington; smith and plumber, Messrs. Baker Bros., Middlesbrough; slater, Mr. J. Harrison, Middlesbrough; plasterer, Mr. J. R. Smiles, Middlesbrough; painter, Mr. A. Lewis, Middlesbrough; glazier, Messrs. G. Lambert & Son, Middlesbrough; fireproof construction, &c., Jones's Annealed Concrete Company, Middlesbrough; staircases, &c., Messrs. Crombie & Son, Middlesbrough; heating and ventilation work, Messrs. G. N. Haden & Son, Trowbridge; laundry engineers' work, Messrs. T. Bradford & Son, Manchester; cooking apparatus, Messrs. Moorwood, Sons, & Co., Sheffield; locksmith, Mr. J. Gibbons, Wolverhampton; skylight and ventilator opening apparatus, Messrs. W. & R. Leggott, Limited, Bradford; oven builder, Messrs. H. Smith & Son, Lambeth; dispensary fittings, &c., Messrs. Punch Bros., Middlesbrough; stage fittings, Messrs. Lithgow & Storry, Middlesbrough; telephones, tell-tale, &c., Messrs. Cox-Walkers, Darlington; fencing, Messrs. Hill & Smith, Brierley Hill. Mr. E. A. Jones, Linthorpe, Middlesbrough, was the clerk of the works. The architect was Mr. A. J. Wood, of London.

VICTORIA TOWER, HUDDERSFIELD. — On the 25th ult., the foundation-stone was laid on Castle Hill, Huddersfield, of the new tower to be erected to commemorate the Queen's long reign. The tower will rise to a height of 106 ft., the highest point to which the public will have access being 100 ft. The basement is to be used as kitchen, storeroom, and lavatory. The principal entrance is on the ground floor, which will be approached by a flight of steps, and gives access to the hall, from which the stairs ascend to the fourth and intermediate floors. Windows are opened out at all points of vantage on the stairs and landings, as well as in the rooms for obtaining views. Seats are provided wherever a convenient position offers. The quantities were supplied by Messrs. Abbey & Hanson, of Huddersfield, whom the Building Committee have appointed to superintend the erection. The contractors are Messrs. Ben Graham & Sons, of Huddersfield.

LODGING HOUSE, EDINBURGH.—A new "Jubilee" lodging-house has just been erected at the corner of Grassmarket and King's Stables-road, Edinburgh. The building will have accommodation for about 500 beds. A reading and recreation-room is provided for the inmates, while the roof of the building is adapted as an open-air promenade. In connexion with the lodging-house there will be six shops, each communicating with the dining-hall, and having a frontage to Grassmarket and King's Stables-road. In addition to the main staircase, from each of the dormitories an emergency door is introduced into the staircase of the adjoining block. Tiles and enamelled brick have been largely used in the construction, the lavatories, dining-hall, stairs, &c., being lined or floored with these. The buildings are six stories in height, and on the basement will be placed the laundry. The building throughout will be fitted with electric light. The style of the building is Castellated Baronial. The work will cost over 12,000*l.*, and has been designed by and carried out under the supervision of Mr. J. W. Maclean, architect, Edinburgh.

POST OFFICE, PERTH.—The new General Post Office for Perth, which has been in course of erection during the last eighteen months, has just been opened. The style is a free treatment of the Renaissance. At the corner rises a tower 100 ft. high. The principal elevation is to the High-street, with a height of three stories; the elevation to the New-street being only one story high. The main entrance is situated at the base of the corner tower, there being also a private entrance in High-street, and a postmen's and mail entrance in the New-street. On the ground floor is the public office. Entering from the public office are the chief clerk's room and an apartment for public telephone boxes. Adjoining the public office, and communicating with it, is the sorting office. This department has accommodation for twenty sorters and forty postmen. Along the south and east sides of the sorting office are the postmen's retiring room and lavatory, storeroom, strong-room, basket-room, &c. Entering from the New-street at the south corner is a large shed in which the mails may be received or despatched. The staircase is situated at the north-east corner of the High-street, and behind it is the telegraph delivery room, which is connected by a pneumatic tube with the instrument room on the second floor, and from which telegrams will be despatched. There is also a private stair from this floor into an inspection chamber, where officials can overlook the whole of the sorting room entirely unseen. In the basement are situated the furnace room, linesmen's room, mechanic's room, telegraph engineers' storeroom, and the battery room. On the first floor are the Postmaster's room, retiring room for male clerks, storeroom, and spare accommodation. On the second floor are situated the women's retiring-room, telephone-room, and the telegraph instrument room. The building is heated throughout by hot water. The architect is Mr. W. W. Robertson, H.M. Board of Works Office, Edinburgh.

STAINED GLASS AND DECORATION.

WINDOW, WINCHESTER CATHEDRAL.—The Jubilee Memorial Window in the Lady Chapel of Winchester Cathedral is completed. The design and execution are by Mr. Kempe.

MEMORIAL WINDOWS, CHRIST CHURCH, BLACKPOOL.—Memorial windows have just been erected in the north-east side of Christ Church, Blackpool, to the memory of the late Mr. Henry Herbert Wainwright, and his mother, the late Mrs. Wainwright. The windows are the work of Messrs. Alex. Gibbs & Co., of London. They have been put in by Mr. John Coulston, of Blackpool.

STAINED WINDOW, EAST CHURCH, PERTH.—There is in course of erection in the East Parish Church, Perth, a stained-glass window presented by Miss Bower. It is in the north-west corner, and consists of three panels with tracery above. The centre panel is a figure of John the Baptist. To the left is a representation of Elizabeth, and to the right is a figure of Zacharias. The window is the work of Messrs. Stephen Adam & Son, Glasgow.

MEMORIAL WINDOWS IN THE TRON CHURCH, EDINBURGH.—Two compartments of a three-light window under the south gallery of the Tron Church have just been filled with stained glass. In the central light is represented a figure of Moses, bearing the two tables of stone and the rod. The light to the left side represents the figure of David, with one hand resting on the harp, and the other holding a scroll, upon which is inscribed a quotation from the Book of Psalms. The windows were executed by Messrs. Ballantine & Gardiner, Edinburgh.

ORGAN, ST. MARGARET'S CHURCH, PRINCES ROAD, LIVERPOOL.—This organ in this well-known church has just been decorated, at a cost of about 100*l.*, by Messrs. Bacon Bros., of London.

A MEMORIAL TO JANE AUSTEN.—It is proposed to fill with painted glass, to be executed by Mr. C. E. Kempe, one of the windows of Winchester Cathedral, as a memorial of Jane Austen. It is stated that the cost of a window in the nave is estimated at 300*l.*; of one in the Lady Chapel, 600*l.* The greater part of Jane Austen's life was passed in the county; and she died at Winchester on July 24, 1817, and was buried in the cathedral. As we have previously observed, however, we fear that a stained-glass window is hardly a kind of memorial that Jane Austen would have appreciated.

FOREIGN.

FRANCE.—The new buildings of the Palais de Justice at Paris, by M. Daumet, have just been inaugurated. They comprise a large audience chamber opening on the gallery of the Sainte Chapelle, a robing-room, and a large gallery at right angles with the prisoners' gallery, and which divides the whole building into two portions.——M. Labrouste has been elected President of Committee of the Union Syndicale des Architectes Français for 1898-99.——There is talk of doing away with the old Salpêtrière Hospital, in order to replace it by a new one built and fitted on modern lines.——M. Brébant, the architect of the Pasteur Institute, has been commissioned to make the plans for a large Institute of Biology in Rue Dutot.——The Municipal administration of Paris is organising periodical and public visits of inspection to the new sewage irrigation area at Achères, near the forest of St. Germain.——M. Lenepveu, professor of drawing at the Ecole des Beaux Arts, has been obliged to resign on account of ill-health.——The death is announced of M. Auguste Loustaunau, a well-known painter of military and *genre* subjects. He was the pupil of Gérôme, Barrias, and Vibert. A great many of his works have become popularly known through engravings.

AUSTRIA.—Arrangements are being made for the erection of a great ice factory at Vienna. The project has long been discussed, and the warmth of last winter, together with the increased price of ice, has brought the matter to a head. An examination of different processes of ice manufacture has been held, with the result that the system of Messrs. Riedinger, of Augsburg, in which carbonic acid is employed, has been adopted.——An industrial hall, erected to commemorate the Imperial Jubilee, from the designs of Herr A. Gurlich, of Vienna, has just been opened at Steyr.——A large site has been selected at Buda Pesth for the erection of a central poorhouse, to cost over a million florins.——The statue of the Emperor was unveiled at Weisskirchen on the 26th ult. It is the work of Herr Emanuel Pendl, of Vienna.——In the middle of the sixteenth century the Church of St. James at Izlau was destroyed by fire and rebuilt. An effort is about to be made to restore it to its original form, which is recoverable so far as the presbytery, the greater part of the nave, and the entrances.

MISCELLANEOUS.

PROFESSIONAL AND BUSINESS ANNOUNCEMENTS.—Mr. Robert Williams, architect, has removed from 17, Effingham-road, Lee, to 20, Northbrook-road, Lee, London, S.E.

ALTAR, ST. PATRICK'S CHURCH, KILNALECK, COUNTY CAVAN.—There has been erected a side altar, dedicated to the Sacred Heart, in the Catholic Church, Kilnaleck, county Cavan. The body of the altar is composed of Caen stone and different coloured Irish marbles. The design and plans were made by Mr. C. J. Taylor, architect, of Dublin and U.S.A. The sculptor's work was carried out by Messrs. Taylor & Sons, of Dublin.

APPOINTMENT.—At the last meeting of the Metropolitan Asylums Board, Mr. W. T. Hatch was appointed Engineer to the Board.

NEW ROYAL ACADEMICIAN.—Mr. E. A. Abbey, A.R.A., has been elected to the full honours of R.A., a choice which we suppose the whole artistic world will ratify. His "Lear" picture in the present Academy furnishes the most suitable comment on the election.

OPEN SPACES.—It is stated that the Corporation of Scarborough have bought for 33,000*l.* from Mr John Woodall the property known as St. Nicholas

House, that the house will be adapted for municipal purposes, and that the gardens, which contain an interesting collection of plants, will be preserved for the public enjoyment.——The long outstanding negotiations for an extension of the Postmen's Park, Little Britain, are, it seems, now brought to a successful termination. The Vicar and Churchwardens of St. Botolph, Aldersgate, have agreed to purchase from the City Parochial Trustees the adjoining plot of land in Little Britain on the terms that the western portion should be conveyed to them on the present payment of 6,000*l.*, and that the eastern portion be handed over to them on the payment, before June 24, 1900, of a further sum of 6,000*l.* The subscriptions in hand are sufficient to meet the former payment, but about 3,000*l.* are still needed to complete the purchase of the land in its entirety.——The burial ground in the rear of the "Robert Browning" Settlement Hall, Walworth, was opened a few days ago. It covers about half an acre, and has been converted into a garden with the aid of a grant made by the Metropolitan Public Gardens Association, and a subscription of half the total cost, by Mr. John Newberry, of Whiteleafe. Mr. H. Doulton has presented a drinking-fountain in memory of his father, the late Sir Henry Doulton, of Lambeth. The name of the garden commemorates the circumstance that Robert Browning (born on May 7, 1812, in the parish of St. Giles, Camberwell) was baptised on June 14, 1812, in the adjoining York-street Independent Chapel, latterly used for mission purposes. His mother's name is included in the first list (1800) of members of the congregation.——It is announced that a syndicate of the residents of Chiselhurst have raised a sum of 33,000*l.* for buying the house and estate, seventy acres, for purposes of golf-links and a club-house, which was the home of Napoleon III., who died there in 1873, and for some while afterwards of the Empress Eugénie and their son, the late Prince Imperial. Camden Place was originally built by Camden, the antiquary, and head-master of Westminster, who died there in 1623. In 1765 Lord Chief Justice Pratt was elevated to the peerage as Lord Camden of Camden Place, and advanced Earl Camden in 1786. His son sold the property to Mr. Lushington, and it was subsequently occupied by Prince Esterhazy, the Austrian Ambassador.

FEDERATION OF MASTER BUILDERS OF GREAT BRITAIN.—A meeting of the Executive Council of the Midland Centre of this Federation was held on the 29th ult. at the offices of the Nottingham Master Builders' Association. Twenty-two members were present, representing the counties of Derby, Nottingham, Lincoln, Salop, Stafford, Worcester, Warwick, Leicester, Rutland, Northampton, Huntingdon, Flint, Denbigh, Carnarvon, Anglesea, Merioneth, and Montgomery. The President (County Alderman John Bowen, of Birmingham) occupied the chair. Reports from the Lancashire and Cheshire Branch of the National Federation relating to the strike of stonemasons, the lock-out in that district, and the present strike in Nottingham were received and discussed. It was felt desirable that the local strike should, if possible, be amicably settled before the July meeting of the General Council in order to avoid the danger of further and more extensive complication and disturbance in the trade.

THE STRAND IMPROVEMENT SCHEME.—On the 29th ult., at the Surveyors' Institution, Savoy-street, Mr. J. Green held an inquiry to determine the value of the property proposed to be included in the betterment area of the Strand improvements. The London County Council, by their Act of 1897, proposed to widen the Strand by the removal of the south side of Holywell-street, and the "betterment" or improvement area under the Act includes the lands, all or any part of which front or abut upon the northern side of Holywell-street. Several cases were agreed upon, and the case of 31, Newcastle-street, a refreshment house, was considered. The house was held under a lease expiring in 1908, at 160*l.* per year, and sub-let for the remainder of the term at 275*l.* Witnesses fixed the value at 6,722*l.* to 7,135*l.*, whilst the valuer of the County Council thought twenty-two years' purchase at 275*l.* per annum was a very fair value. Mr. Wilkinson, surveyor, agreed with the valuation, and the referee reserved his decision. The proceedings were continued on Thursday, and subsequently adjourned.

THE ENLARGEMENT OF WATERLOO STATION.—Mr. A. de Tatton Egerton presided on the 4th inst. over the Select Committee of the House of Commons appointed to consider the Omnibus Bill of the London and South-Western Railway Company. The principal provision of the measure, which had already passed the House of Lords, consisted of a scheme for the enlargement of Waterloo Station, but Lord Robert Cecil, in opening the case for the promoters, explained that since the measure was approved by the Upper House it had been found necessary, at all events for the present, considerably to diminish the area of the enlargement originally contemplated, and in accordance with which the station would have been extended to Waterloo-road on the west side, and as far as Lower Marsh on the north side. Mr. Pope, Q.C., for the London County Council, protested against the alteration of the original scheme. They quite acknowledged the public necessity for an enlargement of Waterloo Station, and therefore had not opposed the Bill as it was brought into the other House, because it would, if carried out as then designed, have brought about several public improvements in the neighbourhood of Lower Marsh.—After the Committee had deliberated in private, the Chairman announced that they considered the preamble of the Bill, so far as it referred to the enlargement of Waterloo Station, was not proved. It was not only not the same scheme that had been sent down from the other House, but it was in itself, as now presented, an ill-considered scheme. Of course, the unopposed portions of the Bill, relating to new lines in Devonshire and elsewhere, would be allowed to proceed.

FONT, ST. MATTHEW'S CHURCH, COCKINGTON.—On the 1st inst., at St. Matthew's Church, Cockington, the new font and baptistry were unveiled and dedicated. The architect is Mr. C. Nicholson; an illustration of the font appeared in our issue for July 3, 1897.

WESLEYAN METHODIST CHURCH, DARLINGTON.—On the 29th ult., the memorial stones were laid of a new schoolroom, which is being erected by the Darlington Wesleyan Methodists. The whole scheme comprises a schoolroom, 54 ft. by 36 ft., and a chapel to be erected on a site opposite the end of Easson-road, which has a frontage of about 100 ft. The schoolroom now in course of erection is intended to seat 350, and will be used as a chapel until the accommodation is too small, when the chapel, to seat 800, will be erected on the east side. There is to be a porch entrance facing St. Luke's-terrace. The total length of the building, including cellars behind, will be 70 ft., and the total width 39 ft. In addition to the main entrance, two others are to be provided, one on the west side and one in the rear. The main entrance, which is to be erected now, will be a temporary one, it being intended at a later period to erect a two-story building in front of the school, containing classrooms, vestries, &c. Mr. W. J. Morley, of Bradford, is the architect, and the contractors are Messrs. Robt. Kitching & Sons, for brickwork, joinery, and plastering; Mr. John Law for painting; Mr. John Wandless for slating; and Mr. T. Lishman for plumbing.

CAPITAL AND LABOUR.

THE THREATENED LOCK-OUT OF MASONS, LIVERPOOL.—The monthly meeting of the Liverpool and Vicinity Trades and Labour Council was held on the 29th ult. at the Mitre Hotel, Dale-street. Mr. T. A. Woods presided. Mr. Cooper (President of the Operative Stonemasons' Society) put before the council the case for the Liverpool masons with regard to the dispute between the employers and operatives in Lancashire and Cheshire. He said that although there was no dispute between the Liverpool masons and the Liverpool employers the latter had posted notices of a lock-out in Liverpool in support of their fellow employers outside. In view of the impending lock-out, the Liverpool employers were endeavouring to get their clients to ignore the penalty clause in contracts. He asked the council to support the society in urging the Corporation and other building employers to insist upon obedience to the contract. A resolution was carried instructing the secretary to write to the Town Clerk of Liverpool and other building authorities urging that the penalty clause in building contracts should be enforced.

BRISTOL BUILDING TRADE.—For some weeks past the Bristol Master Builders' Association have been considering a demand made by the employees in various branches of the building trades for an advance of wages and alteration of the working rules. Meetings have been held, and negotiations have also been conducted by correspondence, until, so far as the federated trades are concerned, the points in dispute have been narrowed to two, viz., the date at which the advance shall come into operation, and the rule with reference to "walking time." The last communication from the Federated Trades, dated June 28, contained a suggestion to refer the two points to arbitration. A fully-attended meeting of the Master Builders' Association was held on the 29th ult., and the result was that a letter was addressed to the Federated Trades by the secretary (Mr. H. J. Spear) containing the following:—"As there does not appear to be any possibility of arranging the two points at variance between this Association and the Federated Trades, I am desired to inform you that the members of this Association are prepared to act upon your suggestion to refer those points to arbitration, and that such arbitration shall be through the medium of the Board of Trade under the provisions of the Conciliation Act of 1896." Mr. Spear suggests in his letter that two members of the Federated Trades shall meet two members of the Master Builders' Association for the purpose of determining upon what lines the Board of Trade shall be approached, and he adds that of course it is understood that the award of the Board of Trade shall be final and binding on all parties. A copy of the letter has been sent to the Bricklayers' Society and to Mr. J. Curle, Secretary of the Bristol Trades' Council. We are also informed that all the federated trades, with the exception of the masons, met on the 29th ult., and communicated with the Master Builders' Association to the effect that they will agree to the points being submitted to arbitration, and that they will continue work until the award of the Board of Trade arbitrator is given.—*Western Press.*

THE JOINERS' DISPUTE, MIDDLESBROUGH.—The Master Builders' Association have conceded one halfpenny per hour advance to the joiners of Middlesbrough. This is the amount asked for, and makes the Middlesbrough rate 9d. per hour, to take effect from July 4.

JOINERS' WAGES, SUNDERLAND.—The joiners in the building trade in Sunderland have received an advance of wages. The rate previously was 9d. per hour, and it has now been increased to 9½d.

MASONS' WAGES, GREENOCK.—The master builders of Greenock district have agreed to fall into line with the Glasgow employers and grant an increase of ½d. per hour, making 9½d. in all. This to take effect on August 1.

THE DISPUTE IN THE NOTTINGHAM BUILDING TRADE.—It is satisfactory to report that in regard to several matters of importance relating to the Nottingham building trade, difficulties which threatened to be of a formidable character have to a certain extent been adjusted, and it is anticipated that the deadlock which prevails in one or two branches will before long be entirely removed. It will be remembered that originally the matter emanated from the demand of the labourers for an advance of ½d. per hour, which has brought in its train a cessation of work on the part of the bricklayers. The notices tendered some months ago by the members of the Stonemasons' Society have expired, but the points have been satisfactorily settled. An extra ½d. per hour has been conceded to the workmen, who, on their part, have made certain concessions in relation to the working rules, particularly as affecting apprentices. An amicable understanding has been arrived at between the bricklayers and the employers, but the men are still "out" pending the settlement of the labourers' strike. A special general meeting of the Nottingham Master Builders' Association took place on the 2nd inst., when the position of affairs in regard to the labourers' strike was taken into consideration. Several of the bricklayers' labourers have returned to their employment, but approximately there are still about 500 out.—*Nottingham Guardian.*

THE CARPENTERS' STRIKE AT NEWPORT.—The carpenters' strike at Newport has been settled. The men have accepted the proposal to return to work under the old rules, but not to continue working after five o'clock. This arrangement will remain in force until May next. If they so desire, however, the men may give notice in September to terminate the agreement in May.

SWANSEA MASONS' STRIKE.—There is no fresh development in connexion with the Swansea masons' strike. The men's offer to work at 8½d. per hour up to January, 1899, when the 9d. is to be given, is still open, but has not yet been accepted by the employers.

LEGAL.

THE LONDON BUILDING ACT.

AT the North London Police-court, on the 29th ult., Mr. Frederick Meeson, one of the District Surveyors of Hackney, was summoned before Mr. d'Eyncourt, at the instance of Mr. James Watt, a builder, to show why his objection to a certain building in Mabley-street, Hackney Marshes, should not be overruled.

Mr. Milner-Jutson appeared in support of the summons, and explained that Mr. Watt was engaged in developing an estate, which was at present rough grass land. A cinder path marked a proposed roadway, which was in the form of an acute angle, or crescent. At one end of the proposed roadway a house had been built and set back about 30 ft. from the centre of the roadway. Mr. Watt started building at the other end of the roadway, and he had only set back 20 ft. from the centre of the road. Mr. Meeson objected under Section 150 of the London Building Act, 1894, on the ground that the second building was beyond the general line of buildings in Mabley-street. Mr. Milner-Jutson pointed out that the Act referred to the general line of frontage in a street, or "part of a street." He contended that this at the present time was not a street at all, and, further, the Act was not intended to apply to entirely new thoroughfares like this. If Mr. Meeson's contention were correct it would be possible for one man to destroy the value of his neighbour's land. He might build a house 50 ft. back from the centre of the road, and all the other owners would have to follow his example.

Mr. d'Eyncourt, who had viewed the building in question, said that his own opinion was that the Act was only intended to apply to buildings put up in an already existing street, and not to an absolutely new thoroughfare. The two portions of Mabley-street were alike only in name. He therefore overruled the objection of the District Surveyor.

Mr. Milner-Jutson asked for costs.

Mr. Meeson hoped the magistrate would not grant costs, as these proceedings were taken in the interest of the builder.

Mr. d'Eyncourt: On your objection.

Mr. Meeson said that was so, but the magistrate's decision gave Mr. Watt a free hand to proceed with

the erection of the rest of the houses in the street, and he was secured from trouble afterwards.

Mr. d'Eyncourt said he thought the case a proper one for argument, and he decided not to allow costs.

ALLEGED OBSTRUCTION OF ANCIENT LIGHTS BY A THEATRE.

In the Chancery Division, on the 5th inst., Mr. Justice North, in the case of Smith *v.* the Barnsley Theatre Company, granted the plaintiff leave to serve notice of motion for the 9th inst. for an *interim* injunction to restrain the defendants from erecting a new theatre on their site so as to interfere with the plaintiff's ancient lights.

THE WESTMINSTER BUILDING DISASTER.

BEFORE Mr. Marsham, at Westminster, on Tuesday, two summonses under the dangerous structure clauses of the London Building Act of 1894 were preferred by the London County Council against the owner of the collapsed building in Orchard-street, Westminster, known as Abbey Mansions. There were also summonses under the constructional section of the same Act, at the instance of Mr. Drury, the District Surveyor, against Mr. W. R. Rickard, builder, of City-road, the offences alleged being—(1) erection to a greater height than 80 ft. without the consent of the Council; (2) that the roof story (more than 60 ft. above the street) was not constructed throughout of fire-resisting materials. The County Council asked for orders in respect of these alleged irregulatities.—Mr. Seager Berry appeared for the L.C.C.; Mr. H. Avory for the defendants; and Mr. Marshall Hall, Q.C., for interested parties.

After the case had been opened at some length by Mr. Berry, and the history of the building given, Mr. Avory contended that it was exempt under Section 202 of the Act dealing with Government buildings. These proceedings appeared to have been taken, he said, in consequence of a suggestion by the coroner that because her Majesty or any department of the Government were not actually in occupation of the building while it was being put up the section did not apply. How a building was to be occupied while it was being put up he could not understand. It was the most distorted conception of an Act that he had ever heard.—Mr. Berry pointed out that the exemption was being claimed, not by the Government, but by private persons.

Mr. Marsham said he thought the premises, under the agreement produced, were vested in the Government, and therefore exempt from the Act. He dismissed the last summons, and formally adjourned the other three to see whether a case would be taken. In that event he should grant 10*l.* 10s. costs.

MEETINGS.

SATURDAY, JULY 9.

St. Paul's Ecclesiological Society.—Visit to the Church of Holy Trinity, Roehampton, under the guidance of Mr. G. H. Fellows Prynne. Train from Waterloo to Putney at 3.5 p.m.

Institution of Junior Engineers.—Excursion down the river by P.S. *Alexandra*. Leave Westminster Pier at 2.15 p.m., calling at Temple, Old Swan, and Woolwich.

RECENT PATENTS:

ABSTRACTS OF ACCEPTED SPECIFICATIONS.

Open to opposition until August 15.

[1897] 13,829.—BATHS AND LAVATORIES: *A. G. Cloake.*—The inlet and outlet are kept apart, the supply taps being fixed to the inside of the end of the bath, the handle and spindles of the inlet taps and of the discharge valve pass through a shelf over the body of the inlet taps; a special claim relates to a combined trap and valve for discharge, either working with a loose grating inside the bath and spindle of valve outside, or having the spindle connected to the plunger on seating inside the bath.

14,365.—DRYING BRICKS, &C., IN CONTINUOUS OR OTHER KILNS: *G. Warren.*—The improvement lies in building a flue, with opening and damper to every chamber all around on the top, leading direct to the chimney independently of any other flue, and fixing a "Blackman" or other fan in the portion so leading to the chimney.

15,146.—MANUFACTURE OF BRICKS, TILES, AND OTHER FORMS: *R. Scholefield.*—In employing rotating cylinders it has been customary hitherto, the inventor says, to partially form the brick or tile in a mould and to then allow the air to escape before completing the final pressure and formation; his present object is to partially form the brick in the mould of a rotating cylinder and to then automatically transfer it to the mould of the brick press, when its formation is completed, and to provide means for automatical operation of the machinery from the driving shaft.

16,839.—FIREPLACES: *W. J. Fieldhouse.*—For fireplaces or grates having a projecting canopy are constructed a number of draw-out side doors preferably of circular form and capable of being drawn round from the back of the grate and brought together in front; the upper pair of doors—either alone or in conjunction with the lower—are intended to form a blower, whilst ventilation is obtained by closing the bottom doors and opening the upper ones.

18,010.—DOOR-CLOSING APPLIANCES: *S. Hill & R. Hodges.*—To a plate on the door are secured (1) a metal cylinder or barrel, and (2) the closing spring-box, which has a lever mounted upon one end of its central pin or axle for connexion with the fixed bracket on the door-casing; the lever is also connected by a rod which passes outside the barrel to the piston rod's outer end, projecting through the end of the barrel remote from the spring-box; the opposite end of the barrel has an air vent; the piston or plunger has an air passage formed through it which is automatically closed on the in-stroke of the plunger by a valve; on the plunger's out-stroke the valve opens and so prevents the retarding of the opening movement of the door, but on the door's closing movement under action of the spring, when the valve is closed, the air can escape through the vent only, and thus violent closing of the door is prevented.

18,711.—STEP LADDERS: *E. Blasberg & Co.*—For supporting tools, &c.; near the top of the ladder a small platform or holder, consisting chiefly of a grating or plate hinged to the legs of the ladder, is so secured that it may extend horizontally or be folded down, either by hand or by the folding or erecting of the ladder.

23,510.—A CALLIPER GAUGE: *C. W. Summerskill & J. H. Wynn.*—This is made in the form of a pair of pliers, whose two sides are connected by a pivot, and marked with scales.

[1898] 595.—MINER'S LAMP: *A. Weil.*—To provide a lamp that can be neither opened when burning nor lighted when opened, the inventor has devised a bolt, operated automatically by the extinguishing device, and bolting either the screwed or lamp gauze, or the extinguishing and lighting device, and arrested in the latter position by a double stopping contrivance which is disengaged by the glass when screwed on, but prevents, in any other state, the operation of the lighting device.

4,504.—SECURING DOOR AND SIMILAR HANDLES UPON THEIR SPINDLES: *A. O. Cairns.*—With a recessed spindle carrying fixed springs, are combined a handle and two washers; the free ends of the springs are compressed in the recesses on the spindle whilst it is being pushed into the handle, and then spring out into the conical hole in the handle, for reversing the operation side holes are made in the handle for the insertion of a curved wire to press upon the springs.

7,648.—FIXING THE HANDLES OF BRUSHES, &C.: *W. Nisbet.*—Spring arms are secured within a recess in the brush-head by means of a bolt and nut, the arms having inclined surfaces adapted to engage with the recess and also with the end of the handle.

10,043.—WATER METERS: *F. Lux.*—This relates to a vane-wheel water meter capable of measuring water flowing through it in the direction opposed to that of the usual flow; the passages in the walls of the measuring cylinder are arranged horizontally one above the other; they are of the same size, but run in opposite directions; on the base and cover of the measuring vessel are provided stemming or damming ribs, triangular in cross section, so arranged that water flowing in from below strikes against their vertical faces, whereas water flowing in from above strikes against their inclined faces, whereby the vane-wheel, in spite of being more heavily loaded with the water flowing in the backward direction, still makes exactly the same number of revolutions, only in the reverse direction, for each unit of measurement of water flowing backwards as for each unit flowing forwards.

10,359.—DOOR, WINDOW, AND OTHER HINGES: *G. & H. Goller.*—The hinge pin portion of the hinge has a screw cast to it, and also a hole cast in it for a second holding screw, whilst the cap or socket portion of the hinge is similarly fashioned. To facilitate the fixing of the hinge is employed a template or guide, which can be temporarily fixed to the door or window whilst the holes for the screws are being bored.

10,650.—ELECTRIC ARC LAMPS: *F. A. Gilbert & E. O. Lundin.*—The contrivance includes means for holding the upper carbon in its place on removal of the inner globe, so that the operator has both his hands free, and a valve for the cap or cover for the inner globe to enable the passage of the upper carbon without binding when in use; the armature of the solenoid is mounted on a tubular member surrounding the upper carbon, and the upper end of the latter has a piston to enter a centrally supported dash-pot at the top of the lamp, the feed controlling clutch being mounted on the tubular member's lower end. It is claimed that the upper carbon will, when burned out, be released from the controlling clutch, so that the ends of the carbons will meet and the current pass through them and the series coil to the line, without damaging the lamp.

NEW APPLICATIONS.

June 20-5.

13,654, G. J. Gibbs, Sifting Appliance. 13,658, Taylor & Robson, and 14,084, H. Newton, Brush and other Handle Fasteners. 13,663, C. H. Jeffs, Sewer Ventilation. 13,664, G. Gardiner, "The Surveyor's Adjuster." 13,667, Hewetson & Lambert, Feed Roller, Circular Saw, and other Protectors. 13,669. N. de Tornau, Drawing Easels. 13,677, J. Cox, Earth-boring Appliances. 13,680, Hart & Clark, Secondary Electric Batteries or Accumulators. 13,689, T. H. Cobley, Silicated and Asbestosised Pulp for making Non-inflammable Paper and Board for Wood Substitutes and as a Non-conductor for Coating Surfaces. 13,697, R. O. Wynne-Roberts, Filter Beds. 13,701, Morrow & Fulton, and 13,761, K. Leverkus, Friction Clutches. 13,702, H. F. Joel, jun., Dynamo Machines and Motors. 13,708, T. Douglas, for Automatically Weighing Quantities of Substances of all kinds. 13,711, T. Voile, Chimney Soot Destroyers. 13,720, T. H. Minshall, Coin-freed Meters. 13,721, J. G. S. Cunnington, Suspended Electroliers. 13,725, W. F. Toifel, Production of Designs upon Paper-woven Fabrics, &c., by Template Printing. 13,728, R. Fiedler, Emptying Cesspools, Ditches, Pits, &c. 13,739, A. C. Lidster, Door Holder and Stop. 13,742, J. Anderson, and 13,993, J. Nall. Circular Saw Guards. 13,746, W. Beak, jun., Brick Kilns. 13,754, J. Windsor-Richards, Window Locking and Fastening. 13,759, Allingham & Fennell, Electric Cables. 13,765, S. G. Brown, Quadruplex and Multiplex Telegraphy. 13,771, G. Josephsohn, 13,968, Sir Charles Stewart Forbes, Bart., and 13,987, W. V. Ebert, Acetylene Lamps. 13,772, R. W. McDonald, Flushing Cisterns. 13,779, Kuersten & Knoble, Filters. 13,785, H. Heilen, Lifting Jacks. 13,793, P. A. Emanuel, Electric Generators. 13,807, Agnes Marks, Sheath Driving Tool for Double-ended Tacks and Nails. 13,808, Felten & Guilleaume, Cables, Ropes, &c. 13,815, A. H. Middleton, Adjustable Spanner. 13,822, T. Armstrong, Domestic Grates. 13,824, T. Thorson, Spark Arresters. 13,830, O. Payan, 13,990, G. Wiltshire, 14,049, K. E. Rosenthal, 14,050, J. Billwiller & K. E. Rosenthal, and 14,139, Sir Charles Stewart Forbes, Bart., Acetylene Gas. 13,847, T. Rowland, Window Fastener. 13,858, S. Holland, Circular Moulding Machine Guard. 13,860, D. Drummond, Heating and Ventilating Buildings, &c. 13,867, Baron Robert Walker & Woodwards, and 13,971, C. S. Todd, Blind Roller Furniture. 13,878, R. Ames, Earthenware and other Pipe Jointing. 13,895, Siemens & Halske A.-G., Reduction of Energy of Magnetisation of Electrical Transformers. 13,914, W. G. Stones, Fuel Economising and Smoke Consuming Apparatus. 13,916, T. Wells, Ash Curbs. 13,920, Woodhouse & Gambles, Handle for Cutlery and similar Articles. 13,927, R. Hoyle, Drying China Clay, and other like substances. 13,928, R. Collenette Brick Presses. 13,929, Barr & Thomson, Machines for Cutting Elliptical and other Eccentric Forms. 13,933, W. Mitchell, jun., Attachments for Fittings of Earthenware Sinks, &c. 13,940, J. C. Clark, Pulverising Machine. 13,942, F. Thomson, Standard and Portable Electric Light. 13,943, Coates & Wood, Filaments of Electric Incandescent Lamps. 13,951, G. M. Stewart, Metallic Tubular Conductors for Electric Wires and Cables. 13,952, Banks & Verity, Springs, Checks, and Top-Centres of Swing Doors, &c. 13,954, W. L. H. Roberts, Portland Cement. 13,960, H. Damm, Electrode for Accumulators. 13,963, Tippel & Ramisch, Door Locks. 13,966, J. A. Schmidt, Screw Wrenches. 13,974, M. C. C. Gadeberg, Frames for Pictures, &c. 13,976, J. H. Lancaster, Grapples, Dredges, and Earth Digging or Handling Apparatus. 13,984, E. Sondermann, Gas Regulator. 13,994, Bigland & Cunningham, Enamel Paint. 13,997, F. Ross, Overflow Sinks. 14,004, F. Eastmead, Hoisting Apparatus. 14,011, W. Appleton, Dies for Brick-making Machines. 14,012, H. C. Brown, Electric Light Fittings. 14,014, W. J. Brewer, Piles, Quays, and Retaining Walls or Structures, and Sea Walls. 14,021, A. Benham, Portable Electrical Tool-holders and Tools. 14,047, R. Bradshaw, Bricks, Clay Blocks, Tiles, &c. 14,051, G. Brown, Elevator Brakes. 14,056, J. T. Adshead, Ladders for Household Purposes. 14,075. Jefferies & Champion, Gas and other Stoves. 14,077, C. F. Kirchhoff, Dynamo Brush. 14,080, W. G. Watts, Expansion, Contraction and Vibration Bearing for Bridges, Girders, and Principles [sic]. 14,089, Alcocks, a Stone Cleaner. 14,090, Royce & Claremont, Lowering Loads of Cranes or Hoists Driven by Electro Motors. 14,099, E. A. Reissig, Privies or Closets. 14,103, G. Krapp, Levels for use by Masons and others. 14,113, H. A. Wagner, Distribution of Electricity by Alternating Currents. 14,120, A. Priest, Valve for Flushing Cisterns, &c. 14,121, Staats & Coates, High and Low Water Indicator. 14,123, H. Lister, Drawing Pen.

SOME RECENT SALES OF PROPERTY

ESTATE EXCHANGE REPORT.

June 17.—By SALTER, SIMPSON, & SONS (at Diss).

Fersfield, Norfolk.—"Ponds Farm," 26 a. 1 r. 2 p., f.	£510

June 18.—By DURHAM, GOTTO, & SAMUEL (at Bedford).

Harrold, Beds.—"The Priory Farm," 620 a. 3 r., f.	6,000
Two freehold houses and 1 a. 0 r. 22 p.	300
Two enclosures, 5 a. 3 r. 22 p., f.	310

June 20.—By Messrs. SPELMAN (at Melton Constable).

Briston, Norfolk.—Fourteen freehold building sites By A SAVILL & SON	112
Felstead, Essex.—"Felstead Bury" and 326 a. 2 r. 35 p., f.	7,600

By BEST & ADAMS.

Hyde Park.—14, Albert-pl., u.t. 35 yrs., g.r. 6*l.* 16s. 6d., r. 120*l.*	1,520

By WEATHERALL & GREEN.

Bloomsbury.—1, Taviton-st., u.t. 25 yrs., g.r. 10s., e.r. 130*l.*	1,000

By J. H. BETHELL.

East Ham.—Vicarage-lane, a freehold building estate, about 9 a.	2,700
Gooseley-lane.—A freehold building estate, 8 a.	1,350

By DREW & SON.

Soho.—10, Gerrard-st., f., r. 80*l.*	2,175
84, Berwick-st., f., r. 80*l.*	2,000

By THURGOOD & MARTIN.

Hammersmith.—84, Hammersmith-rd., and 34 and 36, Brook Green-pl., f.	850
90, 94, and 96, Hammersmith-rd., f.	2,780
Kennington.—36 and 40, Sharsted-st., u.t. 66 yrs., g.r. 12*l.*, r. 72*l.*	705

By J. H. BETHELL (at East Ham).

Upton Park.—Harold-rd., &c., 125 plots of building land, f.	8,236

By CASTIGLIONE & GIBBINGS (at Carlisle).

Carlisle, Cumberland.—"London and North-Western Railway Inn," f.	2,400

June 21.—By BEADEL, WOOD, & CO.

Stansted, Essex.—"The Hargrave Estate," 720 a. 0 r. 20 p., f.	12,100

By JAMES MAUDSLEY (at Settle).

Giggleswick, Yorks.—Five enclosures of land, 32 a. 0 r. 31 p., f.	1,660

By GOUGH & DOVE.

Holloway.—Seven Sisters-rd., "The Bedford Arms" p.-h., f.g.r. 110*l.*, reversion in 51 yrs.	3,480
156 and 158, Seven Sisters-rd., f., r. 78*l.*	1,600
Caledonian-rd.—"The Swan" p.-h., f.g.r. 15*l.*, reversion in 28 yrs.	1,100

By HARDS & BRADLEY.

Camberwell.—5, Hinton-ter., u.t. 52 yrs., g.r. 9*l.*, r. 48*l.*	560
Brixton.—30, Bonham-rd., u.t. 75 yrs., g.r. 7*l.* 17s. 6d., r. 42*l.*	500
Camberwell.—Hinton-rd., i.g.r. 16*l.*, u.t. 52 yrs., g.r. 16*l.*	210

By E. H. HENRY.

Clapham Common.—Cedars-rd., "Downs House," f.	1,500
Clapham.—30, Gauden-rd., u.t. 64 yrs., g.r. 10*l.*, r. 63*l.*	500

By H. N. NEWTON & CO.

Minories.—57, 58, 59, and 60, Royal Mint-st., f., r. 167*l.* 4s.	1,580
Walthamstow.—Erskine-rd., "Oswestry House," f., r. 35*l.*	430
2 and 3, Oswald-villas, f., r. 65*l.*	715
Wandsworth.—8, Alma rd., f., r. 37*l.*	600

By NOTLEY & CO.

Ascot, Berks.—Cheapside, a house and shop, 1 to 4, Lyndale-cottages, "Laburnum-cottage" and "Brooklyn-cottages," and an enclosure, nearly 1 a., f.	4,000

By A. W. TAYLOR & CO.

Islington.—1, Pulteney-st., u.t. 21 yrs., g.r. 4*l.* 9s., r. 65*l.*	480
Barnsbury.—33, Richmond-rd., u.t. 43¼ yrs., g.r. 8*l.*, r. 42*l.*	375
Putney-common.—"The Croft," u.t. 83¼ yrs., g.r. 7*l.*, r. 50*l.*	570

By CHINNOCK, GALSWORTHY, & CO.

Rusper, Sussex.—An enclosure of land, 5 a. 2 r. 8 p., f.	115
Warnham, Sussex.—"Upper Chickens Farm," 38 a. 2 r. 37 p., f.	1,000

By DEBENHAM, TEWSON, & Co.
Mayfair.—51, Charles-st., f., r. 45*l.* £10,990
Snaresbrook.—Snaresbrook-rd., "Buxton House" and 1 a. 0 r. 24 p., f. 2,300
Ripe, Sussex.—"Ripe Manor House" and 40 a. 2 r. 7 p., f. and c. 1,100
West Africa.—Four concessions of land on the Gold Coast. for 99 yrs., at rentals amounting to 560*l.* per annum 2,900

By C. W. DAVIES.
Regent's Pk.—4 and 7, Hanover-pl., u.t. 24 yrs., g.r. 2*l.*, r. 118*l.* 1,035
Marylebone...226 and 228, Great Portland-st., u.t. 11 yrs., g.r. 12*l.*, r. 134*l.* 825
Belgravia.—74, Ebury-st., u.t. 25 yrs., g.r. 8*l.*, r. 120*l.* 1,130
Stoke Newington.—168, Stoke Newington-rd., u.t. 79 yrs., g.r. 20*l.*, e.r. 100*l.* 810
Islington.—368, Essex-rd., u.t. 43 yrs., g.r. 7*l.* 7s., r. 90*l.* 1,020
Hoxton.—31, Ecclesbourne-rd., u.t. 44 yrs., g.r. 6*l.*, r. 36*l.* 350
Barnsbury.—10, 11, and 12, Charles-st., u.t. 45 yrs., g.r. 18*l.* 525

By FLEURET, SONS, & ADAMS (at Masons' Hall Tavern').
Southwark.—Great Dover-st., "The Virginia Plant" p.-h., u.t. 60 yrs., r. 125*l.*, with goodwill 14,400

By HEPPER & SONS (at Leeds).
Leeds, Yorks.—38, 40, and 42, Woodhouse-lane, and 1, Wade-st., area 290 yds., f., r. 115*l.* 3,200

By J. M. LEEDER & SON (at Swansea).
Swansea, Glamorgan.—1 and 2, Wyndham-st., u.t. 50 yrs., g.r. 2*l.* 10s. 408
Wyndham-st., "The Wyndham Stores" b.-h., u.t. 50 yrs., g.r. 1*l.* 5s., r. 25*l.* 430
155 and 157, Oxford-st., u.t. 50 yrs., g.r. 2*l.* 10s. 400

By Messrs. COBB (at Dartford).
Darenth, Kent.—Lane End, a freehold cottage and o a. 3 r., f. 200

By MADDISON, MILES, & MADDISON (at Lowestoft).
Kessingland, Suffolk.—A farm, comprising 69 a. 1 r. 9 p., f. and c. 1,750

By GRIMLEY & SON (at Moreton-in-Marsh).
Evenlode, Worcester.—"Home Farm," 158 a. 3 r. 32 p., f. 2,500

By STIMSON & SONS (on the estate).
Isleworth, Middlesex.—St. John's-rd., twenty-one plots of building land, f. 949
Twickenham-rd., fifteen plots of building land, f. 1,427

June 22.—By INMAN & Co.
St. John's Wood.—133, Alexandra-rd., u.t. 60 yrs., g.r. 16*l.*, e.r. 75*l.* 730
Brighton.—1 and 1A, High View-villas, f., r. 36*l.* 8s. 450

By SLADE & BUTLER.
Tooting.—Brightwell-cres., f.g.r. 35*l.*, reversion in 96 yrs. 890
Twickenham.—Fourth Cross-rd., a block of building land, f. 380

By S. CLIFFORD TEE.
Mile End.—17 to 23 (odd), Mossford-st., u.t. 61½ yrs., g.r. 31*l.* 10s. 1,575
Redhill, Surrey.—60, Station-rd., a profit rental of 20*l.* for 27½ yrs. 150

By DOUGLAS YOUNG & Co.
Stoke Newington.—123, Brooke-rd., u.t. 79½ yrs., g.r. 6*l.* 10s., r. 36*l.* 355
Lewisham.—26, Gilmore-rd., u.t. 81 yrs., g.r. 5*l.* 5s., r. 26*l.* 260
Clapham.—21, Kimberley-rd., u.t. 66½ yrs., g.r. 6*l.* 340

By E. W. RICHARDSON & SON.
New Barnet, Herts.—2, 3, and 4, Percy Villas, f., r. 85*l.* 8s. 1,040
Bedford Row.—Chapel-st., "The King's Arms" p.-h., a profit rental of 40*l.* for 23½ yrs., with reversion 680
Kingsland.—36, Ware-st., u.t. 34 yrs., g.r. 7*l.* 300
Hackney-rd.—1 to 19, St. John's-ter., u.t. 22 yrs., g.r. 40*l.* 2,170
Poplar.—161 and 163, East India Dock-rd., f., r. 145*l.* 2,930
Finchley.—1 to 7, Dagmar-cottages, u.t. 69 yrs., g.r. 29*l.* 8s. 650

By H. J. BROMLEY.
Wood Green.—21 to 28, King's-rd., u.t. 68 yrs., g.r. 24*l.* 1,025
Shepherd's Bush.—5, Netherwood-rd., f., r. 65*l.* .. 1,325
35, Wood-lane, u.t. 76 yrs., g.r. 7*l.* 10s., r. 40*l.* . 380
Croydon.—52, Waddon Old-rd., f., r. 30*l.* 635
Norwood.—1 to 9 (odd), Knight's Hill-sq., u.t. 61 yrs., g.r. 15*l.* 415
Casewick-rd., "Claremont" and "South View," f., r. 70*l.* 1,060
48, Chapel-rd., and 1 to 7, Rose-cottages, u.t. 16 yrs., g r. 35*l.* 535
186 to 196 (even), Knight's Hill-rd., with a stable in rear, f., r. 318*l.* 3s. 4d. 6,650
198 and 200, Knight's Hill-rd., f., r. 70*l.* 1,760
1 to 6, Dibden's cottages, f. 1,475
143, Beulah-hill, f., r. 100*l.* 2,400

By W. T. SMITH & SON (at Rye).
Beckley, Sussex.—"King's Bank Farm," 72 a. 0 r. 20 p., f. 1,700

By WINCH & SONS (at Hawkhurst).
Hawkhurst, Kent.—"Cockshot Farm," 76 a., f. .. 1,650
Sandhurst, Kent.—"Spondon House," and 4a. 2 r. 15 p., f. 1,000

By A. PREECE (at Camberwell).
Brixton.—5, Wingmore-rd., u.t. 64 yrs., g.r. 4*l.* 10s., r. 32*l.* 200
34, Geneva-rd., u.t. 64 yrs., g.r. 6*l.*, r. 33*l.* 310
38, Branksome-rd., u.t. 64 yrs., g.r. 5*l.*, r. 26*l.* .. 255
Camberwell.—73, Lothian-rd., u.t. 60 yrs., g.r. 6*l.*, r. 30*l.* 280

By GLASIER & SONS (at Faversham).
Doddington, Kent.—A freehold house, two cottages, and smithy 525
Two freehold houses, with bakehouse and laundry 800

By ALFRED RICHARDS (at Tottenham).
Tottenham.—53 and 55, Somerset-rd., f., r. 62*l.* 8s. 570
Edmonton.—Salisbury-rd., two plots of building land, f. 560

By NEWLAND, DAVIS, & HUNT (at Newport).
Llanfrechfa Lower, Mon.—"Ty-Llwyd Farm," 54 a. 1 r. 11 p., f. 1,310

By Messrs. SPELMAN (at Great Yarmouth).
Toft Monks, Norfolk.—A farm, comprising 47 a. 2 r. 28 p., f. and c. 500
Hopton, Suffolk.—"Bees" or "Holly Tree Farm," 172 a. 0 r. 6 p., f. £5,050

By WARNE & KING (at Cleobury Mortimer).
Bayton, Salop.—"Mill Farm" and colliery, 65 a. 1 r. 18 p., f. 1,550
Cleobury Mortimer, Salop.—A freehold house and o a. 3 r. 111
A freehold building site, 2 a. 1 r. 33 p. 160

June 23.—By PHIBBS, GIBSON, & Co.
Norwood.—68 and 70, Thornlaw-rd., u.t. 83½ yrs., g.r. 14*l.*, r. 64*l.* 600

By PERCIVAL HODSON.
Harringay.—38, Seymour-rd., u.t. 95 yrs., g.r. 6*l.* 10s., e.r. 42*l.* 455

By HUMPHREYS, SKITT, & HUMPHREYS.
Deptford.—177 and 179, High-st., f., r. 150*l.* 3,010
Lewisham.—10, Lewisham Pk., u.t. 65 yrs., g.r. 13*l.*, r. 55*l.* 580

By H. J. BLISS & SONS.
Hackney.—18, 20, and 22, Mansford-st., f., r. 104*l.* 1,190
Marylebone.—12 and 13, Hereford-st., u.t. 22 yrs., g.r. 40*l.* 170
Bayswater —12 and 13, Celbridge-mews, u.t. 81 yrs., g.r. 14*l.*, r. 40*l.* 290
Fulham.—18 and 19, South-st., u.t. 45 yrs., g.r. 7*l.* 400
Old Ford.—88, Hewlett-rd., f. 420
Bethnal Green.—25, Collingwood-st., f. 270

By GLASIER & SONS.
Putney.—124, Upper Richmond-rd., f., r. 60*l.* 1,590
St. Pancras.—Burton-cres., i.g.r. 220*l.* 10s., u.t. 8¼ yrs., g.r. 7*l.* 990
Whitechapel.—9a, Chicksand-st., r. 50*l.*; also l.g.r. 31*l.* 10s., u.t. 39 yrs., g.r. 32*l.* 10s. 580

By C. C. & T. MOORE.
Whitechapel.—11, 12, 13, and 14, Vine-ct., f., r. 110*l.* 10s. 1,510
St. George's East.—18, St. George-st., and 14 and 15, Artichoke Hill, u.t. 51 yrs., g.r. 20*l.*, r. 126*l.* 2s. 670
Mile End.—25 and 26, South Grove, u.t. 60 yrs., g.r. 8*l.*, r. 52*l.* 350
68, Mile End-rd., u.t. 31½ yrs., g.r. 6*l.* 10s. 350
Old Ford.—62, Totty-st., u.t. 34 yrs., g.r. 3*l.*, e.r. 7*l.* 450
Stratford.—4, 5, 6, 7, and 8, Ross-rd., u.t. 70 yrs., g.r. 12*l.* 10s. 410
Plaistow.—27, Beale-st. North, f., r. 13*l.* 175
48 to 56 (even), Stock-st, f., r. 115*l.* 1s. 1,140
9 to 14, Station-rd., f., r. 163*l.* 16s. 1,630

By NEWBON, EDWARDS & SHEPHARD.
Barnsbury.—121, Richmond-rd., u.t. 11 yrs., g.r. 8*l.*, r. 45*l.* 155
Leyton.—324 and 326, High-rd., u.t. 89 yrs., g.r. 22*l.*, r. 120*l.* 1,240
Haverstock Hill.—No. 138, u.t. 40½ yrs., g.r. 9*l.*, r. 120*l.* 780
Islington.—69 and 70, Gibson-sq., u.t. 29 yrs., g.r. 18*l.*, r. 102*l.* 10s. 740
101, Essex-rd., u.t. 21 yrs., g.r. 20*l.*, r. 48*l.* 140
18, St. Thomas'-st., u.t. 27 yrs., g.r. 5*l.*, r. 34*l.* 265
Holloway.—83, Devonshire-rd., u.t. 54 yrs., g.r. 5*l.* 5s., r. 34*l.* 340
Barnsbury.—40, Thornhill-rd., u.t. 10½ yrs., g.r. 10*l.*, r. 45*l.* 155

By STIMSON & SONS.
Islington.—21, Essex-rd., f., r. 60*l.* 1,170
St. Pancras.—Euston-rd., f.g.r.'s 83*l.* 15s., reversions in 22½ and 24½ yrs. 4,160
Euston-rd., f.g.r.'s 217*l.*, reversions in 32 and 33 yrs. 7,180
Chalton-st., f.g.r.'s 286*l.* 9s., reversions varying from 21¾ to 34½ yrs. 9,575
Church-way, f.g.r.'s 145*l.*, reversions varying from 27½ to 34½ yrs. 4,360

By H. J. BROMLEY.
Norwood.—156, Knight's Hill-rd., f., r. 48*l.* 635
1, 2, 4, and 6, Chapel-rd., with workshops in rear, f., r. 127*l.* 1,915
22 and 24, Chapel-rd., f., r. 52*l.* 825
33 and 77, Thornlaw-rd., f., r. 80*l.* 1,120
206, 208, 210, and 212, Norwood-rd., u.t. 58 yrs., g.r. 18*l.*, r. 118*l.* 1,640
Shortlands, Kent.—Mays Hill-rd., a plot of land, f. 345

By BLACKFORD & SON (at South Molton).
Knowstone, Devon.—"Moortown Farm," 281 a. 1 r. 13 p., f. 3,380

By EDWIN EVANS (at Clapham Junction).
Brixton.—84, Railton-rd., u.t. 71 yrs., g.r. 7*l.*, r. 45*l.* 360
Battersea.—22 and 24, Spencer-st, u.t. 66 yrs., g.r. 10*l.* 490
18, Peveril-st., u.t. 66 yrs., g.r. 4*l.* 220
55, 57, 59, and 61, Castle-st., u.t. 79 yrs., g.r. 21*l.* 5s. 1,030
101, Lavender-rd., u.t. 48 yrs., g.r. 5*l.* 205
11, Surrey-lane, u.t. 55½ yrs., g.r. 5*l.*, r. 30*l.* 265
79, Mysore-rd., u.t. 92 yrs., g.r. 7*l.* 10s., r. 40*l.* . 400
1, Lavender-ter., and 2 and 4, Este-rd., u.t. 50 yrs., g.r. 5*l.* 770
Wandsworth.—29 and 31, St. John's Hill-grove, u.t. 84 yrs., g.r. 12*l.*, r. 52*l.* 410
30, Comyn-rd., u.t. 87 yrs., g.r. 8*l.* 8s., r. 54*l.* 12s. 400
52 and 54, Bucharest-rd., u.t. 90½ yrs., g.r. 11*l.* .. 400
Clapham.—41, Bromfelde-rd., u.t. 63½ yrs., g.r. 9*l.* 9s., r. 48*l.* 445
Balham.—30, Rossiter-rd., u.t. 75½ yrs., g.r. 8*l.*, r. 32*l.* 280

By NORMAN & SON (at Uxbridge).
Uxbridge, Middx.—High-st., "Homeleigh" and 2 a. 0 r. 30 p., f., r. 105*l.* 2,140
57 and 58, High-st., f. 1,680
London-rd., two cottages and 3 a. 2 r. 16 p., f... 820

By T. LAVINGTON (at Devizes).
Urchfont, &c., Wilts.—"The Marsh Farm," 110 a. 1 r. 30 p., f. 1,910
Etchilhampton, Wilts.—Enclosures of land, 42 a. 1 r. 24 p., f. 830

By BLAKE & CARPENTER (at Croydon).
Croydon, — Bensham-lane, "Bensham Manor House" and 1 a. 3 r. 15 p., f. 4,500

By REBBECK BROS. (at Bournemouth).
Bournemouth (near), Hants.—"The Iford Estate," about 423 a., f. (in lots) 26,675

By E. J. GILDERS (at Clacton-on-Sea).
St. Osyth, Essex.—"The Ship" inn, c. 2,550
Clacton-on-Sea, Essex.—"Beach House," f. 1,150

By BUCKLAND & SONS (at Windsor).
Fifield, Berks.—Windsor-rd., a cottage and 8 a. 1 r. 27 p., f. 970
Windsor-rd., two enclosures, 8 a. 1 r. 27 p., f. .. £570
Windsor, Berks.—Alexandra-rd., "The Prince Consort's" or "The Model Cottages," f., r. 620*l.* 7,750

By Messrs. SPELMAN (at Attleborough).
Besthorpe, Norfolk.—"The Blue Tile Cottages," a house and 3 a. 3 r. 33 p., f. 338

By CHANCELLOR & SONS (at Richmond).
Barnes.—1 to 47 and 61 to 71 (odd), Archway-st., u.t. 83 yrs., g.r. 107*l.* 10s. 4,850
1 to 63 (odd) and 2 to 46 (even), Thorne-st., u.t. 83 yrs., g.r. 191*l.* 7,315
Richmond, Surrey.—Battenberg-rd., "Pine," "Lilac," "Birch," "Myrtle," and "Laburnham" Villas, u.t. 94½ yrs., g.r. 13*l.* 6s. 1,000

June 24.—By E. HOLSWORTH.
Dalston.—81, Sandringham-rd., u.t. 68 yrs., g.r. 8*l.*, e.r. 65*l.* 610
Barnsbury.—25, Richmond-rd., u.t. 52 yrs., g.r. 8*l.*, r. 50*l.* 435
Holloway.—19, Benwell-rd., u.t. 65 yrs., g.r. 8*l.*, e.r. 45*l.* 420
Homerton.—1 and 2, Bone-cottages, and workshop adjoining, u.t. 63¾ yrs., g.r. 4*l.*, r. 44*l.* 4s. 170

By KNIGHT, FRANK, & RUTLEY.
Barnsbury.—27, Thornhill-sq., u.t. 47 yrs., g.r. 7*l.*, r. 45*l.* 430

By MONTAGU & ROBINSON.
Oxford-st.—No. 552, u.t. 27½ yrs., g.r. 7*l.*, r. 225*l.* 4,125
8, Woodstock-st., City leasehold, g.r. 4*l.* 7s. 6d., fine 30*l.* 12s., r. 150*l.* 4,250
Bayswater.—1a. and 1 to 19, Caroline-pl., and 6, 9 to 18, Poplar-pl., u.t. 18 yrs., g.r. 10*l.* 4,120
Notting Hill.—154 and 156, High-st., f., r. 155*l.* .. 3,710
Bayswater.—186, Westbourne Grove, u.t. 45 yrs., g.r. 12*l.* 7s., r. 45*l.* 515

By A. J. SHEFFIELD.
Kingsland.—106, Boleyn-rd., u.t. 82 yrs., g.r. 8*l.* 740
Leyton.—159, 161, 193, and 195, Beaumont-rd., u.t. 79 yrs., g.r. 12*l.* 400
Wapping.—Lowder-st., "York House," u.t. 63 yrs., g.r. 20*l.* 170
Poplar.—116, Canton-st., f., r. 33*l.* 16s. 455
23 and 25, Cobden-st., u.t. 45 yrs., g.r. 6*l.* 345
Canning Town.—50 to 58 (even), Garnery-rd., u.t. 87 yrs., 15*l.* 425
South Tottenham.—9 to 39 (odd), Shaftesbury-st., u.t. 81 yrs., g.r. 42*l.* 905

By Messrs. COBB.
Clapham.—7, Laikhall-rise, u.t. 64 yrs., g.r. 3*l.*, r. 50*l.* 620
Bloomsbury.—Drake-st., a rent charge of 5*l.* 9s. 4d., u.t. 81 yrs. 135
Cobham, Kent.—Four cottages, forge, and fruit plantation, 9 a. 1 r. 8 p., u.t. 932 yrs., g.r. nil.. 785
Ightham, Kent.—Enclosures of land, 7 a. 1 r. 8 p., f. 530
Eight freehold cottages 885
"Tibb's" Farmhouse and 49 a. 0 r. 17 p., f. 2,200
Wrotham, Kent.—"Kiln Field," 21 a., 2 r. 2 p., f.. 800
"The Rose and Crown" b.-h. and 18 a. 0 r. 1 p., f. 2,450
"Sheet Hill Farm," 46 a. 0 r. 27 p., f. 1,700

By STIMSON & SONS.
St. Pancras.—Chalton-st., f.g. r.'s 320*l.* 15s., reversions varying from 25½ to 31¼ yrs. 11,765
Clarendon-sq., f.g.r. 34, reversions in 29¾ and 30¾ yrs. 1,100
Stibbington-st., f.g.r. 22*l.*, reversion in 24¾ yrs... 1,500
Maida Vale.—Bristol gardens, i.g.r. 24*l.* 10s., u.t. 52 yrs., g.r. 2*l.* 435
Camden Town.—Torriano-av., i.g.r. 30*l.*, u.t. 45 yrs., g.r. 10*l.* 385
Dalston.—Graham-rd., i.g.r. 22*l.* 10s., u.t. 61 yrs., g.r. 15*l.* 155

By SANDERS & SON (at Barnstaple).
High Bickington, Devon.—"Seckington Farm," 56 a. 3 r. 13 p., f. 980

By C. F. BLAKELY (at New Radnor).
Kinnerton, Radnor.—"The Lower House Farm," 88 a., f. 3,200

By Messrs. PALMER (at Yeovil).
Tintinhull, Somerset.—"The Mansion Estate," 71 a. 0 r. 2 p., f. 3,850
Six freehold cottages 200
Ash, Somerset.—Four enclosures of land, 44 a. 1 r. 39 p., f. 2,050

June 25.—By TUCKETT & SON (at Leicester).
Oadby, Leicester.—"The Hetmitage" and 11 a. 0 r. 11 p., f. 3,575
Two enclocures, 14 a. 2 r. 17 p., f. 850
Hoby, Leicester.—A freehold farm, area 155 a. 2 r. 15 p. 5,050

By BIDWELL & SONS (at Cambridge).
Sturmer, Essex.—"The Sturmer Hall Estate," 404 a. 1 r. 21 p.., f. (in lots) 4,885

By W. J. PIERCE & THORPE (at Northampton).
West Haddon, Northants.—"The Lodge Farm," 292 a. 2 r. 24 p., f. 6,500
"The Buttitt Farm," 92 a. 1 r. 33 p., f. 4,500

By FRANKLIN & JONES (at Oxford).
Marcham, Berks.—"Upwood Park Estate," 81 a. 3 r. 22 p., f. 2,000
Chalford, Oxon.—A freehold tithe rent charge of 90*l.* 1,300

June 27.—By EASTMAN BROS.
Kentish Town.—Castle-rd., i.g.r. 10*l.*, u.t. 37 yrs., g.r. nil 170
Grafton-cres.,, i.g.r. 21*l.* u.t. 37 yrs., g.r. nil.... 380
Forest Hill.—Honor Oak-rd., "Oakfield House," f., r. 105*l.* 1,605

By MAY & PHILPOT.
Brixton.—185, Tulse Hill, f., e.r. 85*l.* 1,200
30, Tulse Hill, also i.g.r. 67*l.* 14s., u.t. 20 yrs., g.r. 7*l.* 600
Wandsworth.—45, Huntsmoor-rd., u.t. 91½ yrs., g r. 5*l.*, r. 30*l.* 315

By RUMBULL & EDWARDS.
Ash, Kent.—"The Moat Farm," 169 a. 1 r. 5 p., f. 5,800
Earl's Colne, Essex.—"Chandler's Farm," 58 a. 1 r. 23 p., f. 850
"Chandler's" and 1 a. 3 r. 19 p., f., r. 36*l.* 930
"Lower Farm," 63 a. 2 r. 14 p., f. 1,260
"Chalkney Wood," 63 a. 1 r. 34 p., f. 690
An enclosure of land, 7 a. 1 r. 16 p., f. 230
Shepherd's-row, nine cottages, f. 500
Priory-st., a freehold house and six cottages 505

By A. SAVILL & SON.
Orsett, Essex.—"Limekiln's Farm," 34 a. 0 r. 26 p., f. 600
An enclosure of land, 10 a. 2 r. 27 p., f. 340

COMPETITIONS, CONTRACTS, AND PUBLIC APPOINTMENTS.

COMPETITIONS.

Nature of Work.	By whom Advertised.	Premiums.	Designs to be delivered.
Water Supply Scheme	Athy (Ireland) Union	15*l.* 15s.	Aug. 1
Water Supply Scheme	Parsonstown (Ireland) Town Commissioners	Not stated	No date

CONTRACTS.

Nature of Work or Materials.	By whom Required.	Forms of Tender, &c. Supplied by	Tenders to be delivered.
Plumbing, &c. Central Stores, Frankfort-st. Plymouth	Co.-op. Soc.	H. J. Snell, Archt. 13, Courtenay-st. Plymouth	July 12
Isolation Block at Sanatorium, Mill Hill	Huddersfield Corp.	E. Thomas & Sons, Archt. 7, Queen Anne's Gate, S.W.	do.
Street Paving Works	Stranraer (N.B.) Burgh Commissioners	W. Black, Town Offices, Stranraer	do.
Alterations to Schools, Loudwater and Flackwell Heath	Wycombe Parish Sch. Bd.	Moxham & Son, Archt. Priory-avenue, Wycombe	do.
Residence, Caton, Lancs.	R. Broughton	N. G. Lewis, Archt. 1, New-road, Lancaster	do.
Workshops, Offices, North Dean	Lumby, Son, & Wood, Ltd.	R. E. Horsfall, Archt. 22A, Commercial-st. Halifax	do.
Additions to Sewerage Works, Wickwar	Chipping Sodbury R.D.C.	J. F. Trew, County-chmbrs. Gloucester	do.
Business Premises, High-st. Cardiff	A. F. Langley	R. J. Williams, Archt. 14, High-st. Cardiff	July 13
Additions to City Hospital	Aberdeen Co p.	J Rust, Archt. 224, Union-st. Aberdeen	do.
*Plumber's Work	Hendon Union	F. J. Seabrook, Union Offices, Edgware, W.	do.
*Stone Coping	Worcester Corp.	City Engineer	July 14
Bridge, Raisdale	Stokesley R.D.C.	W. H. Dixon, Surv. Kirby-in-Cleveland	do.
Church, Slyne, Lancs.		Austin & Paley, Archt. Lancaster	do.
Stone Setts, Kerbs, &c. near Batley	Soothill Upper U.D.C.	J. Blackburn, Surv. Shaw Cross, nr. Dewsbury	do.
Private Improvement Works, Peabody-st. &c.	Halifax Corp.	E. R. S. Escott, C.E. Town Hall	do.
Granite Road Metal (800 tons)	Braintree U.D.C.	H. H. Nankivell, Surv. Waterworks, Braintree	do.
Kiln and Offices, Castleford	T. P. Fawcett	A. Hartley, Archt. Castleford	do.
Twenty-four Houses, Abercynon, South Wales	Mountain Ash (Glam.) Nav. Building Club	A. O. Evans, Archt. Pontypridd	do.
*Works of Removal of Mud from Foreshore at Billingsgate Market	Corp. London Markets Committee	City Surveyor's Office, Guildhall, E.C.	July 15
Residence, Coal Island, co. Tyrone	L. Clark & Sons	J. G. Lindsay, Archt. 6, Chichester-st. Belfast	do.
Wesleyan Methodist Church, Boothferry-road, Goole		H. B. Thorp, Archt, Goole	do.
Residence, Goathland, near Whitby		E. H. Smales, Archt. 5, Flowergate, Whitby	do.
Church Tower, Little Torrington, Devon		H. Reed, Archt. 12, Castle-street, Exeter	do.
Police Station, Crieff, N.B.		D Smart, Archt. Perth	do.
Alterations, &c. to Chapel, Rhayader, Wales	Rev. E. Rees	F. Glyn Evans, Archt. Glenview, Builth Wells	do.
*Two Blocks of Dwellings	London County Council	Archt.'s Dept. 17, Pall Mall East, S.W.	July 16
Rebuilding Hotel, Park-lane, Leeds		T. Winn, Archt. 92, Albion-street, Leeds	do.
School, &c. Marchwiel, nr. Wrexham		E. Jones, Archt. 12, Temple-row, Wrexham	do.
School Chapel, Midway, near Burton-on-Trent		Rev. T. S. Clarke, Newhall, Burton-on-Trent	do.
Road Works, Ritson-rd. Benfield, Durham	Benfield U.D.C.	J. Dixon, Surv. Council Offices	do.
*Wrought Iron Bridge over Tame, Broomstair	Manchester Corp.	W. H. Talbot, Town Hall	do.
Additions to Infirmary, Salisbury	Governors	J. Harding & Son, Archt. 58, High-st. Salisbury	do.
Sewers	West Bridgford (Notts.) U.D.C.	W. Pare, C.E. West Bridgford	do.
Reseating, &c. United Methodist Church, Troon, Cornwall		S. Hill, Archt. Green-lane, Redruth	do.
Villa, Greenroyd Estate, Halifax		G. Buckley & Son, Archt. Tower-chambers, Halifax	July 18
Villa, West End, Halifax		H. Hatton, Archt. Sowerby Bridge, Yorks.	do.
Three Cottages, Barton Stacey, Hants.		Westbury & Son, Land Agents, Andover	do.
Additions to Presbyterian Church, Whitehouse, Belfast		W. J. Fennell, Archt. 11, Chichester-street, Belfast	do.
Two Roads, Larne, Ireland	E. Coey	do.	do.
Baptist School, Cullingworth, Yorks.		J. Judson & Moore, Archt. Keighley	do.
Sewerage Works	Newton Stewart (N.B.) Commissioners	G. Thomson & Deas, C.E. 53, Bothwell-st. Glasgow	do.
Banking Premises, Bridge-street, Leigh, Lancs.	Trustees	J. H. Stephen, Archt. Leigh	do.
Additions to Christchurch Schools, Newark		Godfrey Tallents, Carter Gate, Newark	do.
*Painting and Whitewashing	St. Marylebone Gdns.	F. W. Lee, New Workhouse, Marylebone-road	do.
*Tar Paving	Camberwell Vestry	W. Oxtoby, Surv. Vestry Hall	do.
*Sewers	Barnet U.D.C.	W. H. Mansbridge, 40, High-street, Barnet	do.
*Wood Paving, Cleaning, and Painting	Limehouse B. of W.	Offices, White Horse-st. Commercial-rd. E.	do.
*Alterations to Lodge	Lewisham B. of W.	Board of Works Office, Catford, S.E.	July 19
*Making-up Roads	Tottenham U.D.C.	P. E. Murphy, 712, High-road, Tottenham	do.
*Concreting and Asphalting Arches, Waterloo Bridge	London C.C.	Engineer's Dept. Spring Gardens, S.W.	do.
*Road Making	Bromley U.D.C.	Surveyor, Council Offices	do.
*Receiving Wards at Workhouse, Upper Edmonton	Strand Union	W. S. Cross & Kekwick, Archt. 18, Outer Temple, Strand	do.
*Underground Conveniences	Corporation of London Streets Com.	The Engineer, Guildhall	do.
*Wood Paving	do.	do.	do.
*Post Office at Malvern	Commissioners H.M. Works	Storey's Gate, Westminster, S.W.	do.
Cottage Homes, Shotley Bridge, Durham	Gateshead Union	W. L. Newcombe, Archt. 89, Pilgrim-st. Newcastle	do.

CONTRACTS—*Continued.*

Nature of Work or Materials.	By whom Required.	Forms of Tender, &c. Supplied by	Tenders to be delivered.
Forming Roads	Carlton (Notts.) U.D.C.	R. Whitbread, Surv. Burton-road, Carlton	July 19
Sewers (3¼ miles) near Huddersfield	Honley U.D.C.	W. H. Radford, C.E. Angel-row, Nottingham	do.
Goods Shed, &c. Bristol	G. W. Ry. Co.	G. K. Mills, Paddington Station, W.	do.
Additions to Post Office, Swindon station	do.	do.	do
*Dwelling House		J. Bunce, Turner's Hill, Cheshunt	July 20
Engine Shed, &c. Hull	N. E. Ry. Co.	W. Bell, Archt. York	do.
Twenty Shops, Dewsbury		J. Kirk & Sons, Archt. Dewsbury	do.
*Alterations and Additions at Workhouse	Newhaven Union	Clayton & Black, 152, North-street, Brighton	July 21
Guernsey Granite Spalls	Fulham Union	T. A. Marsh, Union Offices, Hammersmith, W.	do.
Approaches to Bridge, Clova, N.B.		Mr. Ross, Road Surv. Brechin-rd. Kirriemuir, N.B.	do.
Public Hall and Offices	Grange-over-Sands U.D.C.	J. Hutton, Archt. Kendal	do.
Additions to Hospital, Barrow		Austin & Paley, Archt. Lancaster	July 23
Additions to House, Higher Trenoweth, Belowda, Truro		G. Gow, Tregothnan Office, Truro	do.
Electric Light Installation, Amiens-street Terminus, Dublin	G. N. Ry. Co. (Ireland)	T. Morrison, Amiens-st. Terminus, Dublin	do.
*Technical Schools and Library	Colne Corp.	Woodhouse & Willoughby, 100, King-street, Manchester	do.
*Block of Workshops at Asylum	Bucks C.C.	R. J. Thomas, County Hall, Aylesbury	July 25
*Stoneware Pipes and Cement	Cheltenham Corp.	Borough Surveyor	do.
Main Sewers, Hale	Bucklow R.D.C.	J. M. D. M'Kenzie, Surv. 7, Market-st. Altrincham	July 26
Flint Road Metal	Beaconsfield U.D.C.	H. Watson, Surv. High-street, Beaconsfield	do.
*Twenty-nine Houses	County Boro. West Ham	Lewis Angel, Town Hall, Stratford, E.	do.
*Making-up Streets	do.	do.	do.
*Sewers, Manholes, &c.	do.	do.	do.
*Ten Slop Carts	do.	do.	do.
*Materials for Erection of House	Bury Corp.	J. Cartwright, Boro. Engr.	July 28
*Erection of Head Office	Metropolitan Asylums	E. T. Hall, 57, Moorgate-street, E.C.	do.
*Police Station at Staple Hill, near Bristol	Glos. Standing Joint Com.	M. H. Medland, 15, Clarence-street, Gloucester	Aug. 6
*Superstructure of Workhouse, &c.	Nottingham Guardians	A Marshall, King-street, Nottingham	do
Three Houses, Whitehead, co. Antrim		Russell & Lockwood, Archt. 16, Waring-st. Belfast	No date
Pair Villas, Ashley Park, Belfast		P. T. Stewart, Archt. 1, Skipper-st. Belfast	do.
Sewers, Bryn Mel, Llandegfan, Wales	W. A. Dew	Mr. Dew, Masonic-chmbrs. Bangor	do.
Arcade, Shops, &c. near Hotel Metropole, Blackpool		A. Hindle, Archt. 44, Abingdon-st. Blackpool	do.
Additions to Trent Pottery, Hanley, Staffs.	Johnson Bros. Ltd.	R. Scrivener & Sons, Archt. Hanley	do.
Additions to Bowden Temperance Hotel, Stoke-on-Trent	R. Perkes	do.	do.
Additions to National Schools, Newport, Salop		J. R. Veall & Son, Archt. Wolverhampton	do.
Mansion, Nettleham, near Lincoln	T. Wilson	W. Mortimer & Son, Archt. Lincoln	do.
Bridge over Witham, Haddington, Lincs.		do.	do.
Stabling, Lincoln	C. Hartley	do.	do.
Schools, Crofton, near Wakefield		W. H. Dinsley, Archt. Chorley, Lancs.	do.
Work at Wesleyan Chapel, Aberford	Trustees	W. Charnock, Aberford	do.
Surveyor's Materials	Atherton U.D.C.	D. Schofield, Council Offices, Atherton	do.
Business Premises, Park-gate, Darlington	Kelly & Co.	Martin & Davis, Archt. Skinnergate, Darlington	do.
Pipe Laying, Grange Quarry, Burntisland, N.B.		Messrs. Geddes, 21, Young-street, Edinburgh	do.
*Completion of Church Tower (St. Peter's), Plymouth		G. H Fellowes Prynne, Archt. 6, Queen Anne's-gate, S.W.	do
House, Offices, &c.	Long Eaton Gas Co.	E. R. Ridgway, Archt. Long Eaton	do.
Six Shops and Houses, Clifton		La Trobe & Weston, Archt. 20, Clare-st. Bristol	do
Chapel, Selston, Nottingham		W. W. Jepson, Top Mexborough. Selston	do.
Factory, Market Harborough		R. F. Beaumont, Archt. Nuttield, Surrey	do.
Shop Premises, St. Botolph's-street, Colchester	A. J. Lucking & Co.	C. E. Butcher, Archt. 3, Queen-st. Colchester	do.
Schools, Vine-street, Coventry		G & J. Steane, Archt. 22, Little Park-st. Coventry	do.
Additions to Infirmary, Brecon		Wilson & Moxham, Archt. 15, Castle-st. Swansea	do.
Block of Shops, and Offices, King-st &c. Nottingham		E. R. Sutton, Archt. Bromley House, Nottingham	do.
Extension of Burial Ground	Shepshed U.D.C.	W. T. Hampton, Surv. Swan-st. Loughborough	do.
Eight Houses, Holbeck		D. Dodgson, Archt. 86, Albion-street, Leeds	do.
Additions to School, Cardonald, N.B.	Paisley Landward Sch. Bd.	Kerr & Watson, Archt. Johnstone	do.
School, Carron, near Stirling	Larbert Sch. Bd.	M'Luckie & Walker, Archt. Stirling	do.
*Disinfecting Chamber at Workhouse	Kingston Union	W. H. Hope, Offices, Portsmouth-road, Kingston-on-Thames	do.

PUBLIC APPOINTMENTS.

Nature of Appointment.	By whom Advertised.	Salary.	Application to be in.
*Clerk of Works	Barnet U.D.C.		July 16
*Clerk of Works	St. George's Union	3*l.* 3s. per week	do.
*Stores Superintendent	G. N. Ry. Co.		July 20

Those marked with an asterisk (*) are advertised in this Number. *Competition, p.* — *Contracts, pp.* lv. vi. vii. viii. & ix. *Public Appointments, pp.* xvii. & xix.

An enclosure of garden land, 18 a. 1 r. 31 p., f. £450
Whitechapel.—3 and 5, Great Garden-st., area 10,000 ft., u.t. 40 yrs., g.r. 110*l.*, r. 350*l.* 2,900
Woodford.—Snakes-lane, an enclosures, 8 a., f. 840
Chigwell-rd., grazing land, 50 a., f. 1,950
Churchfields, enclosure of building land, 5 a. 1 r. 34 p., f. 1,525
Finchingfield, Essex.—An enclosure of land, 2 a. 1 r. 28 p., f. 195

By G. A. Wilkinson & Son.

Chilbolton, Hants.—"The Church Farm Estate," 248½ a., f. (in lots) 3,460

By Weatherall & Green.

East Hanningfield, Essex.—"East Hanningfield Hall Farm," 153 a. 3 r. 27 p., f. 1,900
"Huntingdon's Farm," 78 a. 1 r. 35 p., f. 1,075
Tooting.—Streatham-lane, a freehold building estate, 53 a. £10,200
Mitcham.—London-rd., f.g.r. 25*l.*, reversion in 54 yrs. 650
Wimbledon.—3 to 10, 13, 14, 25 and 26, Alexandra-rd., u.t. 73½ yrs., g.r. 61*l.* 10s., r. 348*l.* 3,340
29, 30, 31, and 32, Alexandra-rd., f., r. 128*l.* 1,920

By M. De Rome & Son (at Windermere).

Sawrey, Lancs.—Four enclosures, 28 a. 0 r. 29 p., f. 710
"Bell Green Cottage" and 1 r. 20 p., f. 310
Five enclosures and a plantation, 23 a. 2 r. 38 p., f. 1,166
"Town End" and "New" Cottages, also a range of buildings, f. 1,060
Two freehold houses and 1 a. 1 r. 5 p. 345
A grocer's shop and warehouse, f. 520
"Woodside Cottages," and "The Institute," f. 661

By Morris, Sons, & Peard (at Glastonbury).

Meare, Somerset.—"Great House," and 2 a. 3 r. 12 p., f. £520
Two plots of building land, 1 a. 3 r. 37 p., f. 160
Various enclosures of land, 94 a. 0 r. 35 p., f. 2,428
Three enclosures of pasture, 13 a. 0 r. 33 p., f. 618
Keinton Mandeville, Somerset.—"Coombe Hill House," and 8 a. 2 r. 36 p., f. 1,210
"Coombe Farm," 75 a. 0 r. 22 p., f. 1,825
An enclosure of land, 4 a., f. 110
Barton St. David, Somerset.—Two enclosures, 20 a. 2 r. 7 p., f. 545

By Walker & Walton (at Southwell).

Upton, Notts.—A Farm, area 103 a. 2 r. 8 p., f. and c. 4,865

Cropwell Bishop, Notts.—"The Limekiln Inn" and 36 a. 1 r. 6 p., f., r. 55*l.* £2,650
June 28.—By G. F. HARRINGTON.
Forest Gate.—137 and 139, Shrewsbury-rd., f., r. 59*l.* 16s. 585
Catford.—4 and 8, Woolstone-rd., u.t. 88 yrs., g.r. 20*l.*, r. 100*l.* 1,150
By MIDDLETON & CRACKNELL.
Hampstead.—8 and 9, Eldon-rd., u.t. 53½ yrs., g.r. 24*l.*, r. 185*l.* 1,900
By THORNE & SON.
Brentwood, Essex.—High-st., two freehold houses and shops, r. 140*l.* 2,650
Chapman's-alley, a freehold cottage 105
By DEBENHAM, TEWSON, & CO.
Hampstead Heath.—"Golder's Hill" and 36 a. 0 r. 21 p., f. 38,500
Walton-on-Thames, Surrey.—Bowes-rd., "Cottimore"; also "Walton Lodge" and 33 a. 1 r. 13 p., f. 10,000
Marylebone.—86, Gt. Portland-st., u.t. 70 yrs., g.r. 34*l.*, r. 350*l.* 3,200
48, Gt. Marylebone-st., u.t. 74 yrs., g.r. 20*l.*, r. 240*l.* 1,800
Holloway.—55 and 57, Carleton-rd., u.t. 70½ yrs., g.r. 20*l.*, r. 130*l.* 1,115
Kensington.—Campden House-rd., i.g.r. 15*l.*, u.t. 45 yrs., g.r. 5*s.* 250
By BEAN, BURNETT, & ELDRIDGE.
Barnsbury.—47 and 57, Hemingford-rd., u.t. 44 yrs., g.r. 12*l.*, r. 76*l.* 755
4, Thornhill-sq., u.t. 47 yrs, g.r. 8*l.* 5*s.*, r. 48*l.* ... 505
Caledonian-rd.—90, Frederick-st., u.t. 53 yrs., g.r. 6*l.*, r. 34*l.* 355
74, Blundell-st., u.t. 53 yrs., g.r. 5*l.* 10*s.*, r. 28*l.* .. 360
Caledonian-rd.—Nos. 496 and 498, i.g.r. 17*l.*, u.t. 44 and 54 yrs., g.r., 4*l.* 260
Hackney.—West-st., i.g.r. 50*l.*, u.t. 62 yrs., g.r. 27*l.* 575
Hornsey Rise.—Cheverton-rd., f.g.r. 12*l.*, reversions in 83 yrs. 340
By HAMPTON & SONS.
St. Issells, Pembroke.—F.g.r. 10*l.*, reversion in 45 yrs. 530
A freehold holding, comprising 11 a. 0 r. 10 p. .. 750
By J. HIBBARD & SONS.
Edmonton.—Brettenham-rd., a block of building land, f. 440
9 to 13, Argyle-rd., f., r. 93*l.* 12*s.* 840
1 to 8, Argyle-rd., u.t. 83 yrs., g.r. 32*l.* 710
Walthamstow.—24 and 26, Lennox-rd., f. 440
By REYNOLDS & EASON.
Stepney.—7, 9, and 11, Garden-st., f., r. 78*l.* 590
Mile End.—1 and 3, James-st., u.t. 14 yrs., g.r. 8*l.* 105
Aldgate.—11, Duke-st., u.t. 9 yrs., g.r. 35*l.* 305
45, Great Prescott-st., area 2,250 ft., f. 1,910
Spitalfields.—80, Brushfield-st., f., r. 60*l.* 1,550
By S. & G. KINGSTON (at Spalding).
Surfleet, Lincs.—"Red House Farm," 71 a. 1 r. 9 p., f. 4,150
Surfleet, &c., Lincs.—Two enclosures, 9 a. 0 r. 23 p., f. 440
Gosberton, Lincs.—Enclosures of land, 10 a. 1 r. 15 p., f. 500
By FLEURET, SONS, & ADAMS (at Masons' Hall Tavern).
City of London.—Cheapside and Honey-lane Market, "Magog's," u.t. 64½ and 70½ yrs., g.r. 1,640*l.*, with goodwill 36,300
St. George's East.—28, Cable-st., and "The Bricklayers' Arms" p.-h., freehold rentals of 125*l.*, reversions in 11 and 30 yrs. 3,560
Hammersmith.—The Grove, "The Grove Tavern," u.t. 47 yrs., r. 105*l.*, with goodwill 28,110
By W. J. GARDNER (at Masons' Hall Tavern).
Islington.—Upper-st., "The Mitre" p.-h., u.t. 20 yrs., r. 105*l.*, with goodwill 7,860

Contractions used in these lists.—F.g.r. for freehold ground-rent; l.g.r. for leasehold ground-rent; i.g.r. for improved ground-rent; g.r. for ground-rent; r. for rent; f. for freehold; c. for copyhold; l. for leasehold; e.r. for estimated rental; u.t. for unexpired term; p.a. for per annum; yrs. for years; st. for street; rd. for road; sq. for square; pl. for place; ter. for terrace; cres. for crescent; yd. for yard, &c.

PRICES CURRENT OF MATERIALS.

TIMBER.		
Greenheart, B.G.	ton	8/0/0 0/0/0
Teak, E.I.	load	9/5/0 14/5/0
Sequoia, U.S.ft.cu.		1/9/0 2/0/0
Ash, Canada, load		3/18/0 5/3/0
Birch, do.		3/0/0 4/13/6
Elm, do.		4/3/0 5/3/0
Fir, Dantsic, &c.		2/13/0 4/3/0
Oak, do.		2/0/0 3/0/0
Canada		3/15/0 5/0/0
Pine, Canada red		0/0/0 0/0/0
Do. yellow		2/18/0 4/18/0
Lath, Dantsic, fath		4/10/0 5/10/0
St. Petersburg		5/0/0 6/10/0
Wainscot, Riga, &c., log		4/18/0 5/18/0
Odessa, crown		4/18/0 5/18/0
Deals, Finland		
2nd & 1st std	100	8/15/0 9/5/0
Do. 4th & 3rd		8/15/0 9/5/0
Do. Riga		7/5/0 8/5/0
St. Petersburg, 1st yellow		10/15/0 13/5/0
Do. 2nd yellow		9/15/0 11/5/0
Do. white		9/5/0 11/5/0
Swedish		9/15/0 16/5/0
White Sea		10/5/0 16/15/0
Canada, Pine 1st		18/15/0 24/15/0
Do. do. 2nd		13/5/0 15/15/0
Do. do. 3rd, &c.		5/15/0 9/5/0
Do. Spruce, 1st		10/15/0 12/5/0
Do. do. 3rd and 2nd		8/5/0 9/5/0
New Brunswick		7/5/0 8/5/0
Battens all kinds		5/0/0 18/0/0
Flooring boards, sq., 1 in. prep. 1st		9/6 17/9
Do. 2nd		8/0 13/6
Other qualities—		6/3 7/0
Cedar, Cuba, ft.		/4 /4½
Honduras, &c.		/3¾ /4½
Mahogany, Cuba		/5¾ /7
St. Domingo, cargo av.		/5 0/2/3
Mexican, do. do.		/3¾ /4
Tobasco, do. do.		/4 /6¾
Honduras, do.		/4 /6
Box, Turkey,	ton	4/0/0 15/0/0
Rose, Rio		7/0/0 14/0/0
Bahia		8/0 0 12/0/0
Satin, St. Doming.		0/0/5 0/1/0

TIMBER *(continued).*		
Satin, Porto Rico		0/0/6 0/1/6
Walnut, Italian		0/0/3 0/0/7
METALS.		
Iron—Pig, in Scotland	ton	2/5/11 0/0/0
Bar, Welsh, in London		5/15/0 5/17/6
Do. do. at works in Wales		5/10/0 5/12/6
Do. Staffordshire, in London		6/5/0 7/10/0
COPPER—British cake and ingot		54/5/0 54/15/0
Best selected		54/15/0 55/5/0
Sheets, strong		60/0/0 60/10/0
Chili bars		50/15/0 0/0/0
YELLOW M. L. lb.		5d. 5¼d.
LEAD—Pig		
Spanish	ton	13/7/6 0/0/0
English com. bands		13/12/6 0/0/0
Sheet, English 6 lbs. per sq. ft. and upwards		14/12/6 0/0/0
Pipe		15/2/6 0/0/0
ZINC—English sheet	ton	23/0/0 0/0/0
Vieille Montagne		23/10/0 0/0/0
Spelter		20/5/0 20/7/6
TIN—Straits		71/18/9 0/0/0
Australian		72/10/0 73/0/0
English Ingots		74/10/0 75/5/0
Banca		61/0/0 0/0/0
Billiton		59/15/0 60/0/0
OILS.		
Linseed	ton	16/5/0 0/0/0
Cocoanut, Cochin		27/15/0 0/0/0
Do. Ceylon		22/0/0 0/0/0
Palm, Lagos		21/15/0 0/0/0
Rapeseed, English pale		27/10/0 0/0/0
Do. Brown		26/0/0 0/0/0
Cottonseed ref.		14/5/0 25/5/0
Oleine		13/10/0 14/10/0
Lubricating U.S.		0/5/3 0/7/6
Do. Black		0/5/0 0/6/6
TAR—Stockholm	barrel	1/5/0 0/0/0
Archangel		0/12/6 0/0/0
Turpentine		20/15/0 0/0/0

TENDERS.

[Communications for insertion under this heading should be addressed to "The Editor," and must reach us *not later than* 10 *a.m. on Thursdays.* N.B.—We cannot publish Tenders unless authenticated by the name and address of the sender; and we cannot publish announcements of Tenders accepted unless the amount of the Tender is given, nor any list in which the lowest Tender is under £100, unless in some exceptional cases and for special reasons.]

ABERDEEN.—For the enlargement of school buildings, being new gymnasium, manual instruction and cookery rooms, at Kingstreet School, and additions and alterations on the main building, for the School Board. Mr. J. A. Ogg Allen, Architect, Boards Offices, Aberdeen:—

Masonry.—A. Milne & Sons, Aberdeen.....
Carpentry.—Watt & Clark, Aberdeen.....
Slating.—A. Adam & Co., Aberdeen .....
Plastering.—George Leith, Aberdeen .....
Plumbing.—Franklin & Fiddes, Aberdeen ....
Painting and Glazing.—John Williamson, Aberdeen ..... } £2,187 8s.

BERKHAMPSTEAD.—For building work, repairs, &c. at the workhouse infirmary, for the Union Guardians. Mr. E. H. Adey, Surveyor, Shrublands-terrace, Berkhampstead:—

Austen & Son, New Mill, Tring	£105 10	H. & J. Matthews*	£101 0

* Accepted.

BLACKBURN.—For the erection of sub-structure of addtional wing to the infirmary, for the Board of Management of the Blackburn and East Lancashire Infirmary. Messrs. Simpson & Duckworth, architects, Richmond-chambers, Blackburn. Quantities by architects:—

Jno. Cronshaw	£2,189	J. Whittaker & Son	£1,849
Jno. Boland	2,130	W. J. Woof Cronshaw, Pump-street, Blackburn*	1,747
Jno. Fevitt & Sons	1,999		
E. Lewis & Son	1,598		

* Accepted.

BRADFORD (Yorks).—For the erection of stable, cartshed, &c., Manningham. Mr. C. E. Marsden, architect, 3, John-street, Bradford:—

Masonry.—Thos. Illingworth, Lumb-lane, Bradford
Joinery.—E. Watmough, Manchester-road, Bradford .....
Plumbing.—Thos. Nunwick, Manningham-lane, Bradford.....
Plastering.—T. Widdop, Picton-street, Wigham ..
Slating.—Albert Hill & Son, Spring-row, Bradford
Painting.—A. Bassett, City-road, Bradford ..... } £307

BRIGHTON.—For laying cast-iron water-main (3,200 yards) Portslade, for the Town Council. Mr. James Johnston, Waterworks Engineer, 12, Bond-street, Brighton:—

J. & H. Robus	£2,643 5 0	B. Cooke & Co.	£885 4 8
W. H. Holman & Co.	914 14 0	A. E. Nunn, Tenterden (accepted)	826 14 6

CHESTERFIELD.—For pulling down bridge and erecting new one over river Hipper for the Corporation. Mr. H. E. Featherstone, Borough Surveyor, Saltergate, Chesterfield:—

Robert Peck	£1,295 0 0	R. Holmes & Co.	£1,097 11 0
J. Wright, Chesterfield*	1,105 6 6		

* Accepted.

CLONMEL.—For additions, &c., to Birdhill House, for Captain Jolliffe. Mr. E. A. Hackett, C.E., Clonmel:—

P. Burke	£488	P. Loughman, Carrick-on-Suir (accepted)	£445
W. F. Mackey	448		

GRIMSBY.—For the erection of stable, granary, and cart-shed, Cleethorpes, for the Cleethorpes-with-Thurnscoe Urban District Council. Mr. E. Rushton, C.E., Poplar-road, Cleethorpes:—

T. Wilkinson	£200 0 0	A. Lime	£226 0 0
G. H. Baker	196 6 6	W. Ion	165 0 0
A. Burnett & Co.	158 10 0	Mashford, Nutley, & Wade	157 10 0
W. Cross	172 12 6		
R. S. Sanderson	170 16 6		

[Surveyor's estimate, £150 4s.]
The above is for the structure only: the fittings are found by the Council.

HIGH WYCOMBE.—For the construction of precipitation tank, for the Town Council. Mr. T. J. Rushbrooke, Borough Surveyor, High Wycombe:—

Meridith	£5,369 0 0	G. Bell	£4,139 0 0
Clift Ford	5,134 9 10	Lee & Son, Wycombe*	3,699 0 0
Bently & Lock	4,602 11 6		
G. H. Gibson	4,217 0 0		

* Accepted.

ILKETSHALL (Suffolk).—For new roof and restoration of chancel, and dry area to nave, to St. Andrew's Church. Mr. Arthur J. Lacey, architect and Diocesan Surveyor, 6, Upper King-street, Norwich. Quantities supplied:—

G. E. Hawes	£625	W. Calver, Ilketshall*	£538
R. Morris	540		

* Accepted.

KETTERING.—For the completion of eighteen private streets, &c. (2,600 yards), for the Urban District Council. Mr. T. R. Smith, Surveyor, Market-hill, Kettering:—

Currall, Lewis, & Martin	£9,361 15 5	H. H. Barry	£8,895 0 0
Siddons & Freeman	9,313 0 0	W. G. Wilmott	8,594 0 0
Bentley & Loch	9,169 5 3	F. Barlow, Rothwell*	8,170 0 0

* Accepted.

LEAMINGTON.—For the erection of engine-house, Lillington, New Cubbington, for the Corporation:—

R. Gathercole	£780	Rd. Bowen, Tavistock-street, Luton (accepted)	£797

LEEDS.—Accepted for the completion of the new meat market and abattoir, in New York-street and Harper-street, Leeds, for the Corporation:—

Masonry and Bricklaying.—J. T. Wright	£9,532 17 8
Joinery.—W. Mason & Son	2,112 0 0
Plumbing.—H. Braithwaite & Co.	1,099 0 0
Slating.—J. Atkinson & Son	420 0 0
Concreting.—S. McFarlane	519 12 0
Ironfounding.—W. Horsfall & Co.	2,096 18 9

LEEDS.—For the erection of laundry buildings, &c., Aire-place, Kirkstall-road, for the Laundry Company, Limited. Messrs. Johnstone Bros., architects, 39, Lowther-street, Carlisle. Quantities by architects:—

Charles Myers	£3,347 10	E. Taylor & Co., Littleborough (accepted)	£3,035 10

LONDON.—For erecting office and warehouse, Orchard-street, Westminster, S.W., for Messrs. P. S. King & Son. Mr. G. Harold Elphick, architect, Broad-street House, New Broad-street, E.C.:—

J. Greenwood	£7,174	Grover & Son	£6,982
W. Downs	7,124	Lorden & Sons	6,832
Holloway Bros.	7,110	Kirk & Kirk	6,795
Adamson & Sons	7,055	Stanley Bird	6,761
Whitehead & Co.	6,985	W. King & Son (accepted)	6,669

LONDON.—For rebuilding premises, 41, Pitfield-street. Mr. A. P. Stokes, architect and surveyor, 1, Addington-road, Bow:—

I. Weibking & Son	£1,948	M. F. C. Hoskins	£1,665
Perry Bros.	1,777	Yates & Co.*	1,587
S. J. Scott	1,687		

* Accepted.

LONDON.—Accepted for alteration and addition to coach-house, Dorset-mews, East-road, for Messrs. Dottridge Bros.:—
J. Weibking & Sons, 65, Southgate-road, N. £750

LONDON.—Accepted for alterations and additions to stables, Bevenden-street, for Messrs. Dottridge:—
J. Weibking & Sons £150

LONDON.—Accepted for alterations to roofs of workshops, entirely reslating same (about 100 squares) at per schedule of prices, for Messrs. Dottridge Bros.:—
J. Weibking & Sons

LONDON.—For the construction of an underground convenience, High-street, Harlesden, for the Willesden District Council. Mr. O. Claude Robson, Engineer, Public Offices, Dyne-road, Kilburn, N.W.:—

C. Ford	£1,290	R. Ballard, Ltd., Child's Hill, Hendon*	£996
P. Wood	1,017		

* Accepted.

LONDON.—For offices and laboratory, for the Albion Chemical Company, Riverside, Charlton, S.E. Mr. R. Williams, architect, 20, Northbrook-road, Lee, S.E.:—

T. J. Barden	£800	Ierrard & Sons	£789
W. L. Holloway	888	Staines & Son	728
Thomas & Edge	887	Lloyd & Terrington	650
Balaam Bros.	868		

[Foundations and heating not included]

LONDON.—For new drainage works at No. 6, Silver-street, E.C. Messrs. Tillett & Yeoman, architects:—

Batt & Hart	£177	J. W. Heeps (accepted)	£169

LONDON.—For sundry external repairs at 168, [Clerkenwell-road:—

Kiddle & Sons	£248	Hawtrey	£198
Ashby Bros	219	J. W. Heeps	197

LONDON.—Accepted for cleaning works at the Royal London Ophthalmic Hospital, Blomfield-street, E.C.:—
J. W. Heeps £132

CRONDALL (Hants).—For the erection of a water tower, new water sluices, mains, &c., reinstating sanitary fittings, and the erection of a new laundry. Mr. Archibald Ansell, architect, 21, Buckingham-street, Strand, and Woking. Quantities by the architect:—

	No. 1.	No. 2.	No. 3.	No. 4.	No. 5.	No. 6.	Total.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Architect's estimate	404 0 0	435 11 0	424 0 0	142 12 0	2,023 16 1	84 1 0	3,514 0 1
Shand, Mason, & Co.	—	—	—	138 7 6	—	—	—
M. E. Fitt	424 0 0	456 0 0	423 0 0	182 0 0	2,019 0 0	83 0 0	3,587 0
Wm. Rose & Co.	—	—	—	*100 18 11	—	—	—
Matthews & Co.	—	455 14 3	—	—	—	—	—
Duke & Ockenden	*370 12 0	*420 9 8	—	148 14 6	—	—	—
Finch & Co.	—	—	*411 0 0	—	—	*78 0 0	—
Snuggs	370 0 0	469 0 0	449 0 0	243 0 0	—	—	—
Crosby	—	358 0 0	429 0 0	—	*1,940 0 0	84 0 0	—
Pearson	429 3 6	—	—	—	—	—	—
Beck & Co.	406 10 0	—	—	125 0 0	—	—	—
Jewell & Co.	436 15 6	491 14 0	—	191 16 3	—	—	—
Glenfield Company	—	—	—	150 11 9	—	—	—
Merryweather	—	—	—	125 1 0	—	—	—

* Accepted.

NORWICH.—For the restoration of the nave, tower, and south porch of Lingwood Church. Mr. Arthur J. Lacey architect and Diocesan Surveyor, 6, Upper King-street, Norwich. Quantities supplied:—

—	Restoration of Nave.	New Seating to Nave.	Restoration of Font.	Restoration of Tower.	Restoration of Porch.	Pinnacles to Tower.	Total.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
J. S. Smith	459 10 0	94 9 0	11 10 6	133 0 0	50 0 0	18 18 0	767 7 6
R. Chapman	470 0 0	91 0 0	9 10 0	125 0 0	42 10 0	24 0 0	762 0 0
G. E. Hawes	420 0 0	108 0 0	9 0 0	89 0 0	54 0 0	30 0 0	710 0 0
*R. W. Riches, Postwick	392 8 6	101 0 7	8 5 0	103 7 2	41 0 6	13 6 0	659 7 9

* Accepted.

MARYPORT.—For additions to business premises, Curzon-street, for the Co-operative Society. Mr. C. Eaglesfield, architect, Maryport:—
T. Ferguson, joiner, Maryport.....£914 17
[For the whole.]

NEW BROMPTON (Kent).—For the erection of drapery and art furnishing stores, for Mr. C. Fynn. Mr. E. J. Hammond, architect, 111, High-street, New Brompton. Quantities by the architect:—

H. Wyles	£985	T. Cornelius	£859
J. Wellford	935	H. E. Phillips, New Brompton (accepted)	832
J. H. Harris	875		

NORWICH.—For the restoration of nave and a new south aisle to Cringleford Church. Mr. Arthur J. Lacey, architect and Diocesan Surveyor, 6, Upper King-street, Norwich. Quantities supplied:—

R. Chapman	£1,040	F. Gunton	£919
J. Downing & Son	972	J. H. Smith	842
S. R. Wilkins	937	G. E. Hawes, Norwich*	840

* Accepted.

PETERBOROUGH.—For the erection of two houses, Parliament-street. Mr. J. G. Stallebrass, architect, North-street, Peterborough:—

Hicks Bros.	£473 5 8	Sibley Bros.	£435 0 0
Watson & Lucas	442 0 0	Nichels (accepted)	384 10 0

[All of Peterborough.]

PLYMOUTH.—For making certain structural alterations and additions to the Old Yacht Club premises, Millbay-road, as new offices for the Western Counties Agricultural Association, Limited. Mr. Robt H. B. Neal, architect, Central Exchange, Plymouth:—

J. P. Berry	£2,100 0	Partridge	£1,785 0
F. C. Ambrose	1,994 18	T. Jenkin & Son	1,769 0
J. Goad & Co.	1,922 0	A. Andrews	1,760 0
Wakeham Bros.	1,880 0	A. N. Coles	1,754 0
W. Gibson, Exeter	1, 21 0	J. H. Blachell, Plymouth*	1,737 0
A. R. Lethbridge & Son	1,785 0		

* Accepted.

PORTSMOUTH.—For the erection of a church to St. Stephen, Portsea, for St Stephen's Church Building Committee. Mr. R. A. Crowley, architect, 22, High-street, Croydon. Quantities by Messrs. E. M. Whitaker and Mr. C. G. Maylard:—

W. Learmouth	£9,130 0	Jas. Crockerell	£7,527 0
W. Potter	8,7 6 0	Light & Son	7,425 0
Clark & Sons	8,267 0	Thos. P. Hall, 7 and 9, Bedford-road, Southsea, Portsmouth*	6,866 10
Stephens, Bastow, & Co., Ltd.	7 908 0		
J. M. Perkins	7,577 0		

* Accepted.

PUTNEY (Surrey).—For new roads and sewers on the estate of Mr. R. J. Pettiward. Messrs. Lee & Pain, architects and surveyors, 63, Lincoln's-Inn-fields, W.C.:—

W. R. Williams	£1,911	J. Mears*	£1,851
F. Smith	1,883		

* Accepted.

REIGATE.—Accepted for the erection of a house at Underhill-Park, Reigate, for Mr. G. Taylor. Mr. C. E. Salmon, architect, Bell-street, Reigate:—
W. Bagaley & Sons.....£1,432

RUNCORN.—For new furniture for the Board-room of the Runcorn Union Workhouse, Dutton. Mr. Samuel Davies, architect, Runcorn and Frodsham:—

Turner, Son, & Walker	£237 2	Robert Garnett & Son, Warrington (accepted)	£197 0
Waring & Gillow, Ltd.	223 18		

ST. LEONARDS-ON-SEA.—For house and shop, Norman-road, St. Leonards-on-Sea, for Mr. W. Beaty. Messrs. Elworthy & Son, architects, London-road, St. Leonards. Quantities by the architects:—

H. E. Cruttenden	£1,436	F. G. Hatton	£1,230
P. Jenkins	1,402	Barter & Gasson	1,147
Eldridge & Cruttenden	1,395	W. G. Morgan, St. Leonards*	1,035
Padgham & Hutchinson	1,350		
C. Harman	1,275		

* Accepted.

STOCKPORT.—For infirmary extensions. Messrs. Woodhouse & Willoughby, architects, Manchester:—

Byron	£11,583	T. & W. Meadows, Heaton Norris*	£10,803
G. Macfarlane	11,290		
J. Briggs	11,195		

* Accepted.

STONEHOUSE.—For new premises, for Mr. John Perry (including the removal and setting back of "Pomeroys Corner"). Mr. H. J. Snell, architect:—

J. P. Berry	£3,157	W. Palk	£2,760
S. Harvey	2,837	— Pearn	2,735
T. May	2,835	G. B. Turpin	2,653
T. Crews	2,789	J. Jenkin & Son, Devonport*	2,559
H. Blackell	2,775		

* Accepted.

WALTHAMSTOW.—For executing sundry repairs at the undermentioned schools for the Walthamstow School Board. Mr. W. A. Longmore, architect, Bridge Chambers, Walthamstow:—

Maynard-road Schools.—G. Studds*	£139 12 0
Markhouse-road Schools.—Lee & Allen*	95 15 0
Marsh-street Girls' and Infants' Schools.—W. Laurance*	31 7 6
Marsh-street Boys' Schools.—W. Laurance*	39 5 0
Higham Hill Schools.—W. Laurance*	129 0 0
Pretoria-avenue Schools.—W. Laurance*	17 0 0
Samuel-road Schools.—W. Laurance*	119 0 0
Shern Hall Schools.—G. M. Page*	65 0 0
Forest-road Schools.—Archer*	7 10 0

* Accepted.

WEDNESBURY.—For the erection of a fire station, &c., High Bullen, for the Corporation. Mr. M. Scott, Borough Engineer, Town Hall, Wednesbury:—

W. H. Mallin	£965	G. Summerhill	£805
John Dallow	950	J. Holloway, Wednesbury*	850
G. Williamson	903	W. Ginder	835
W. T. Lees	900		

* Accepted.

WEDNESBURY.—For reinstating certain roads in the borough damaged by mining operations, for the Corporation. Mr. E. M. Scott, Borough Engineer and Surveyor:—

F. J. Smith	£248 0	J. W. Fereday, Wednesbury (accepted)	£188 15

WEDNESBURY.—Accepted for street improvements, Walsall-road and Mill-street, King's Hill, for the Corporation. Mr. E. Martin Scott, Borough Engineer and Surveyor:—

F. J. Smith	£188 0 0	J. W. Fereday Wednesbury (accepted)	£157 9 3

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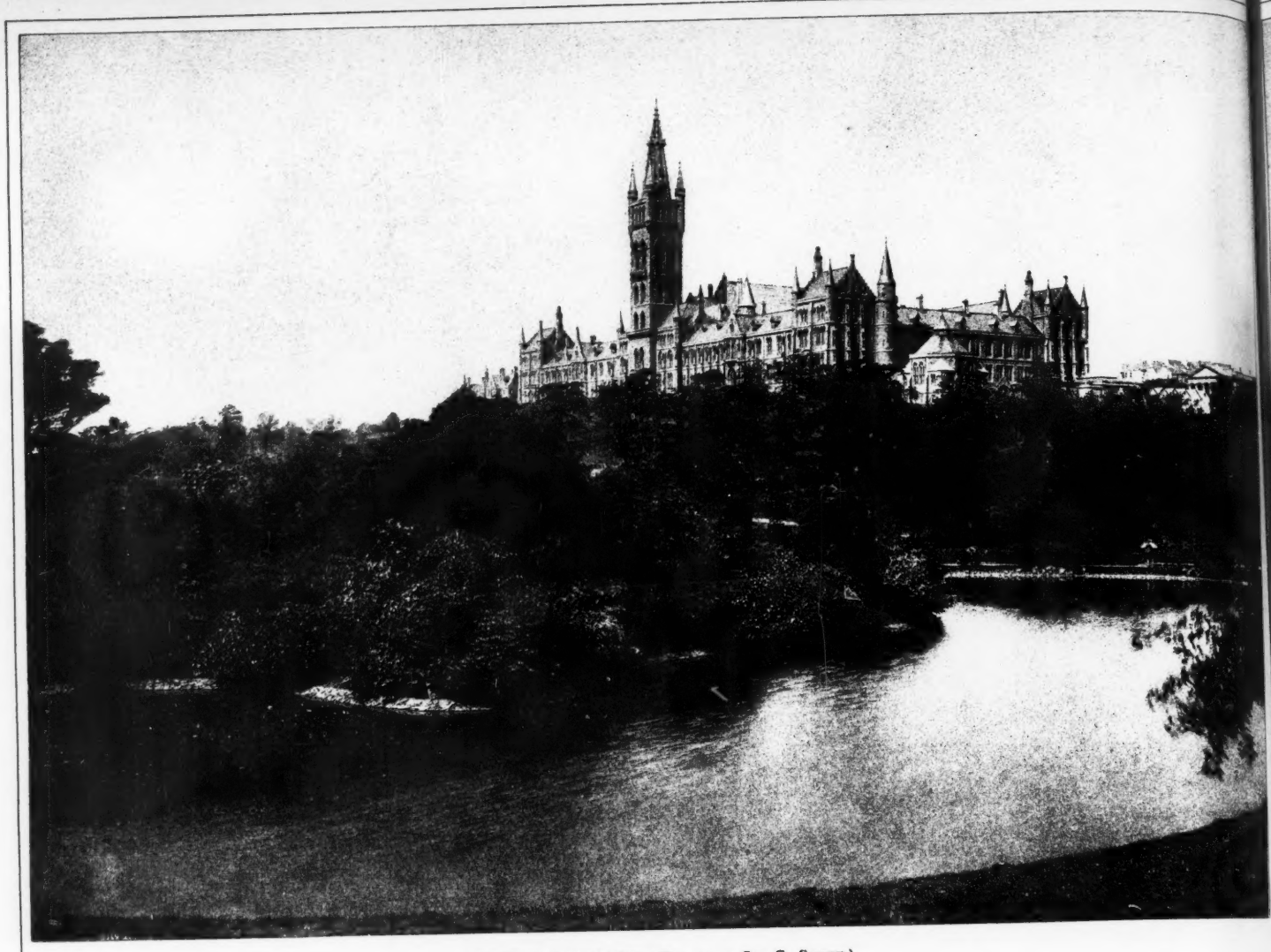

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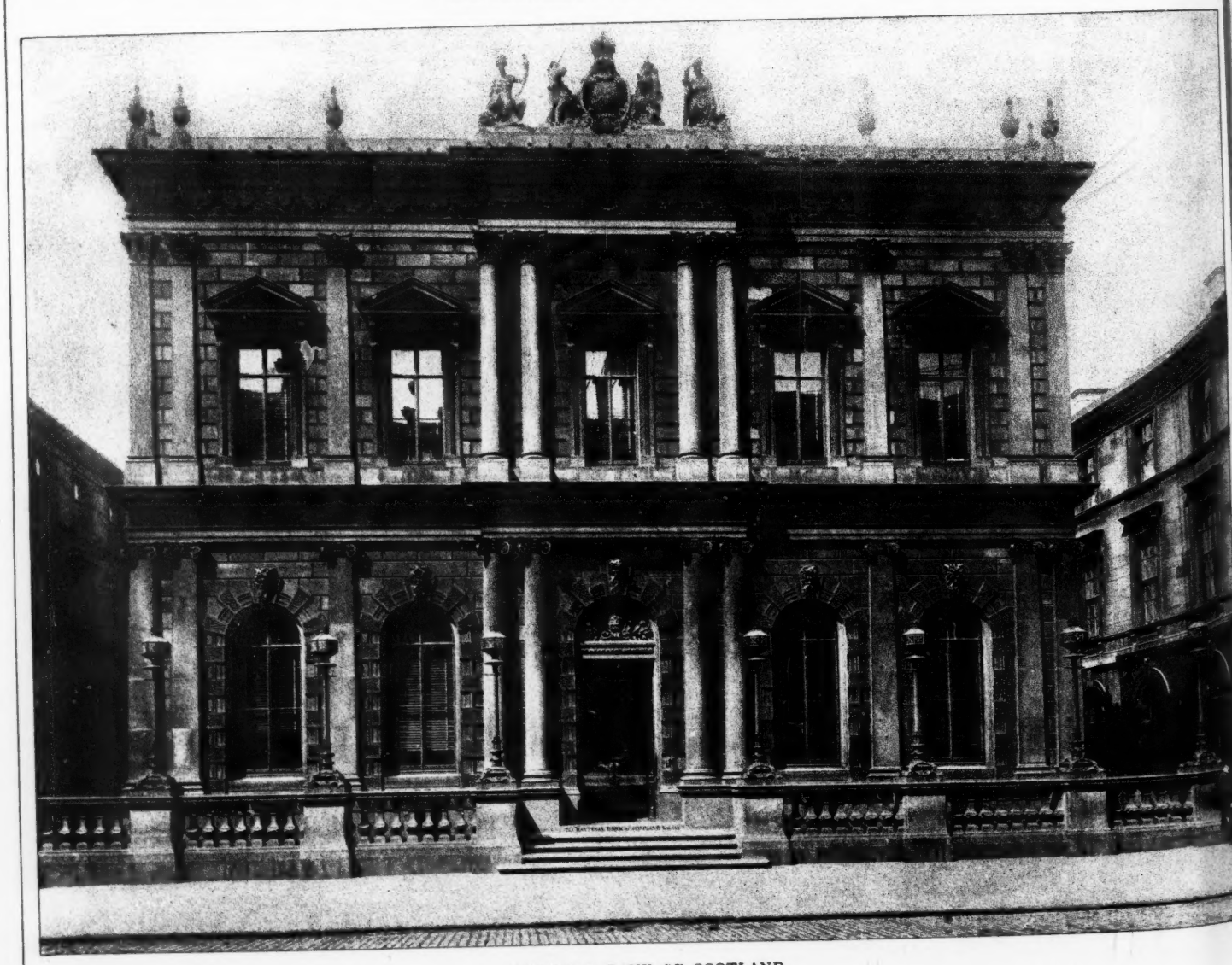

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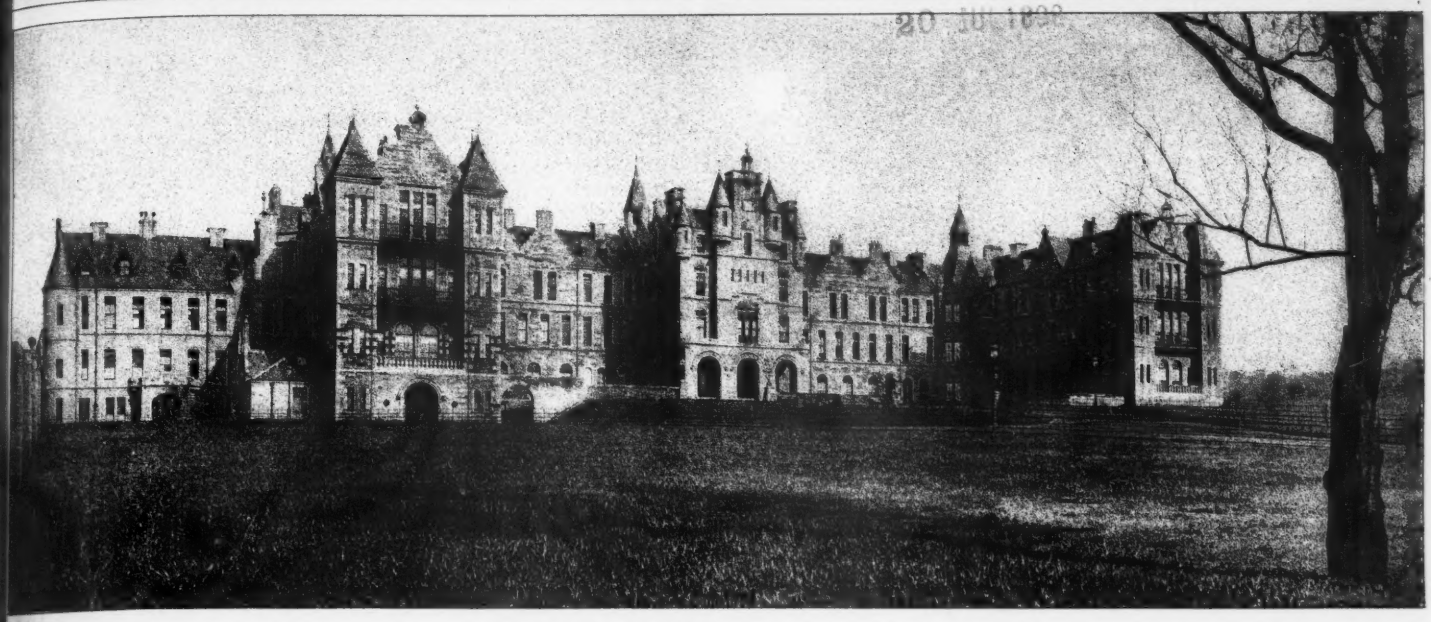

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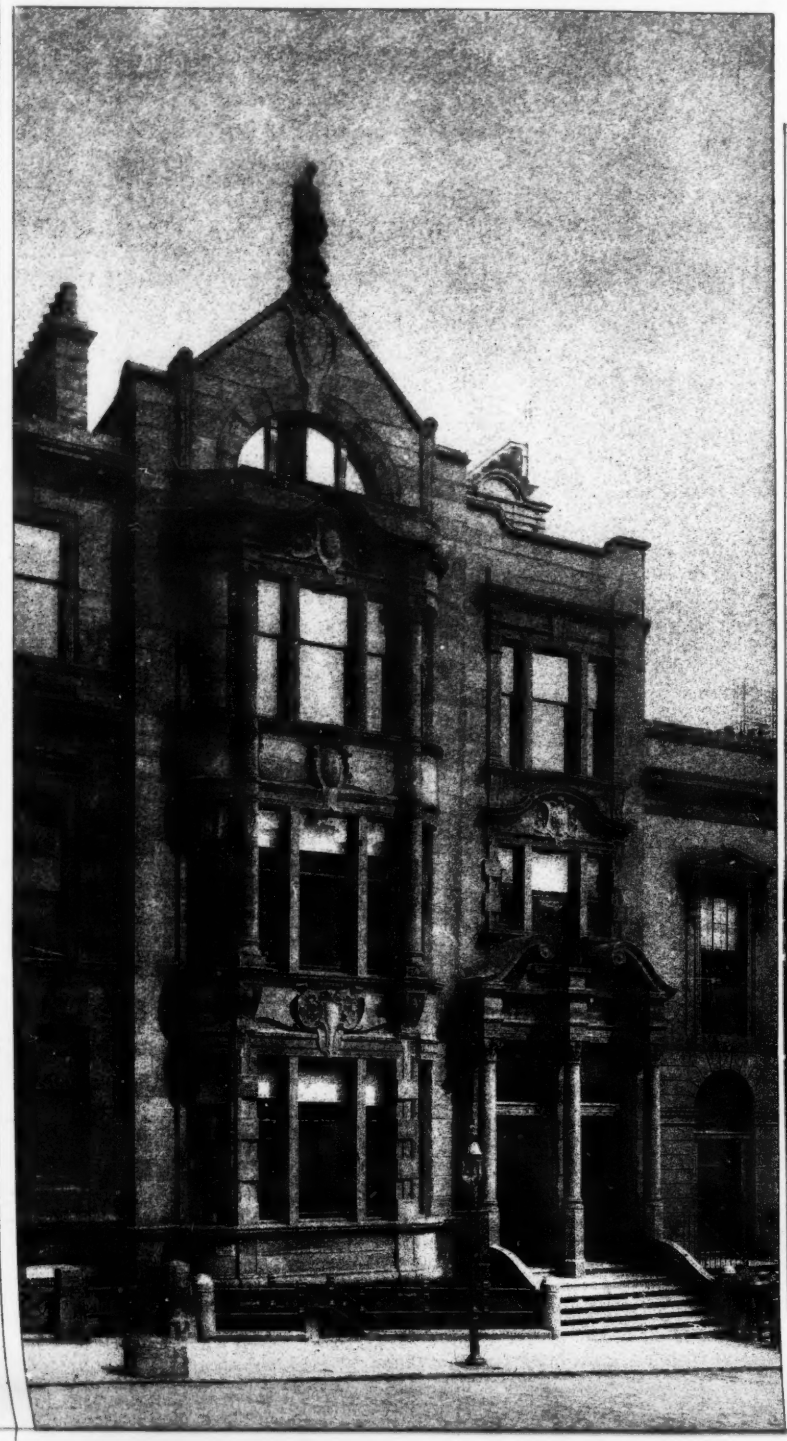

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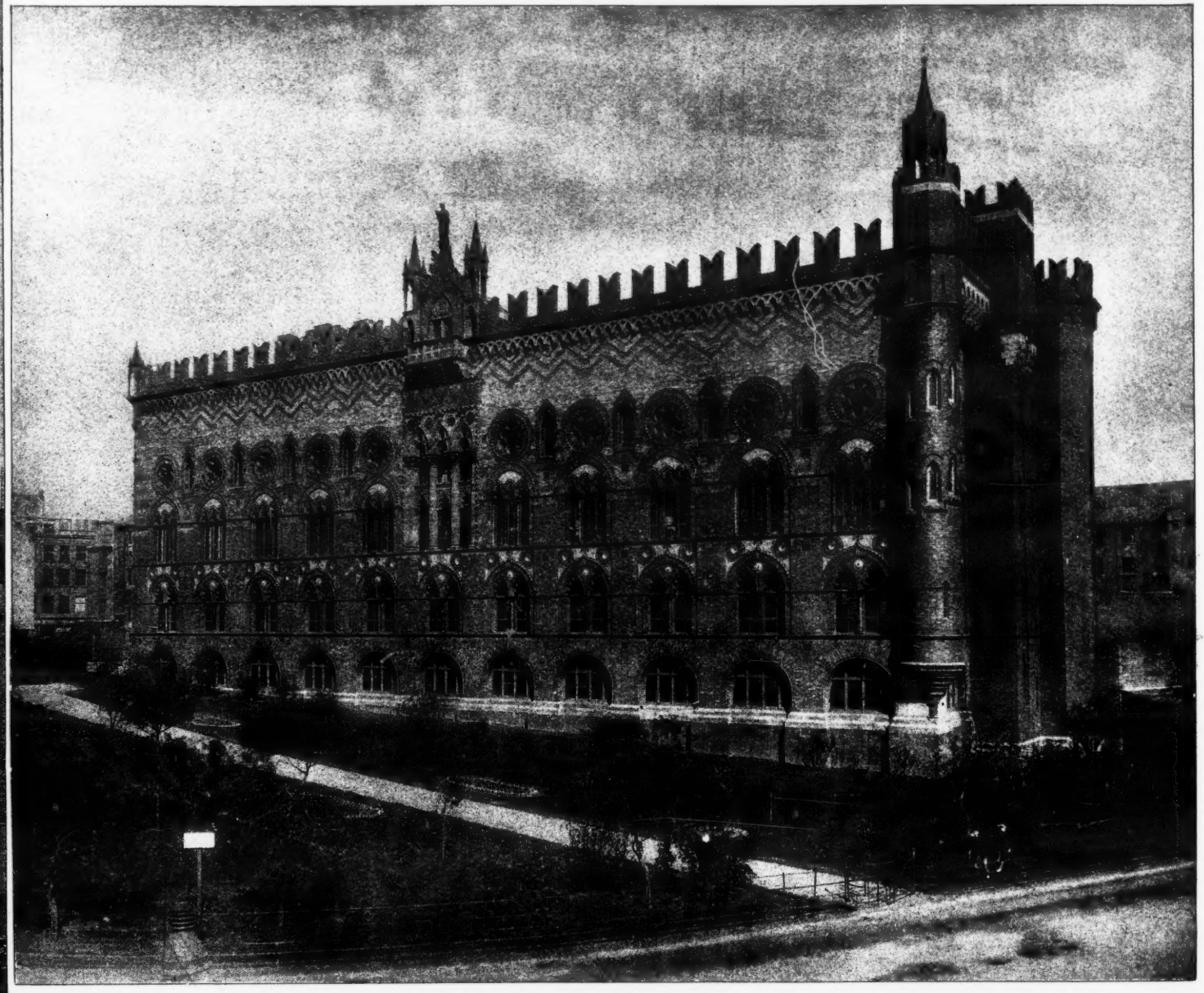

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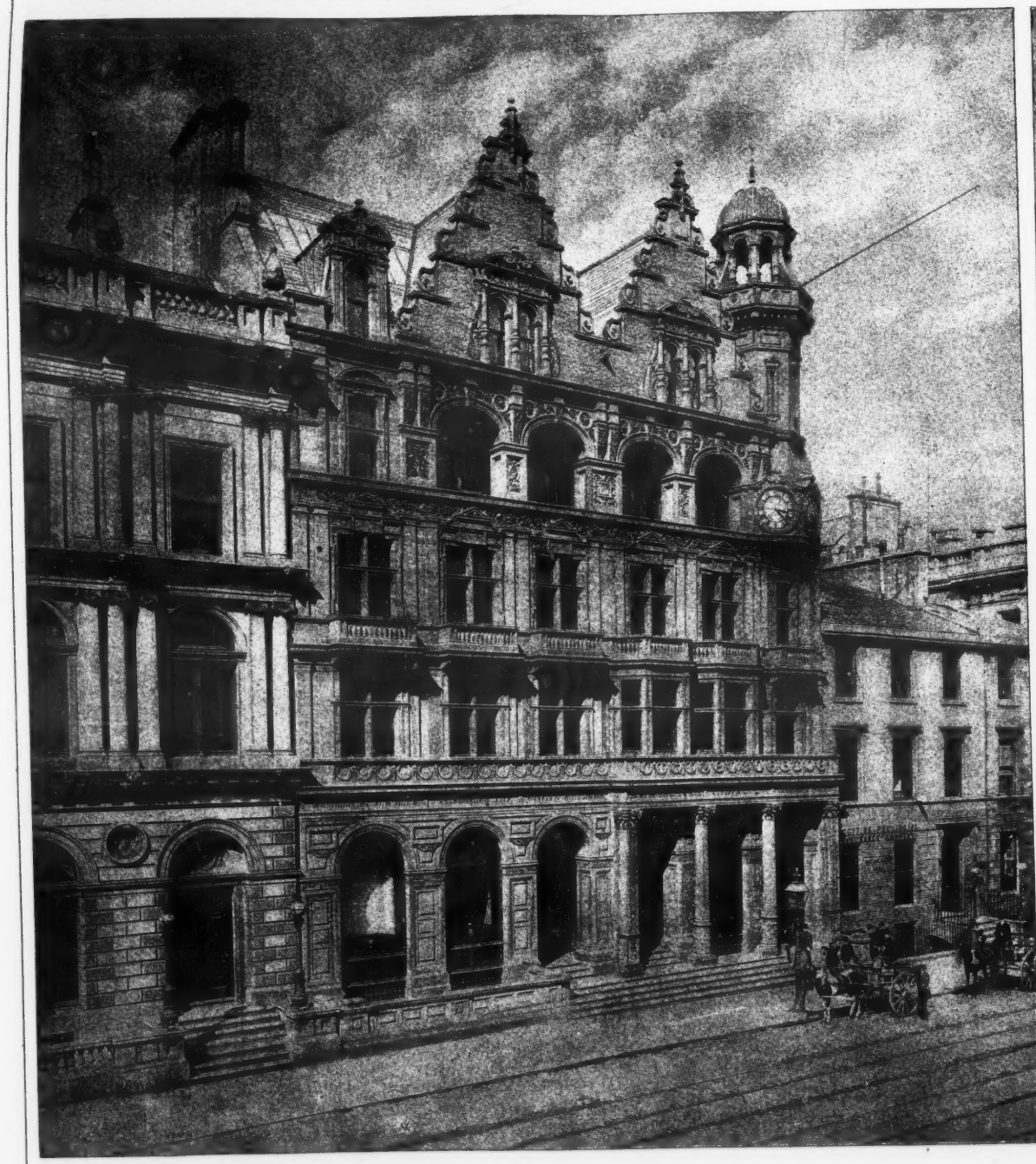

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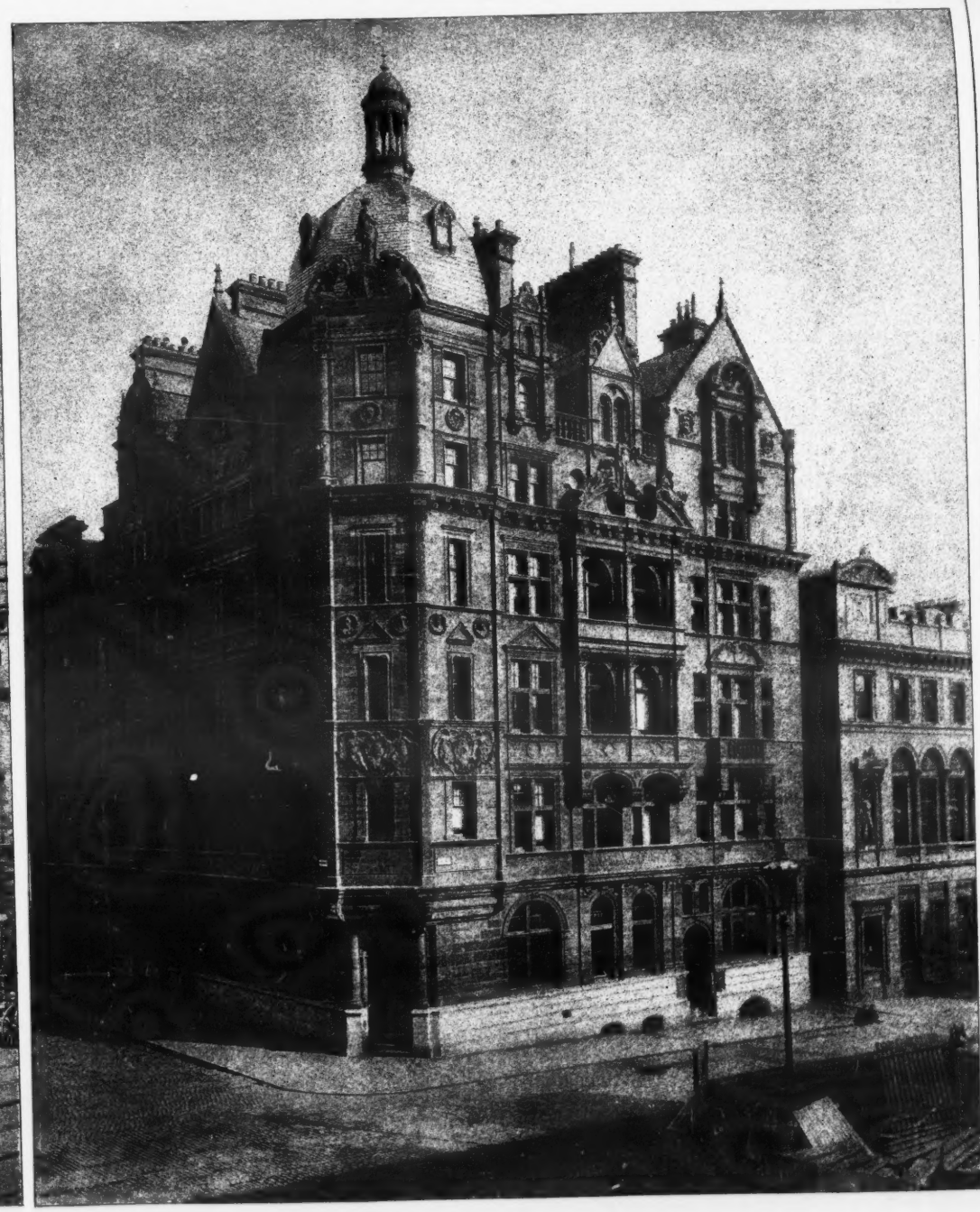

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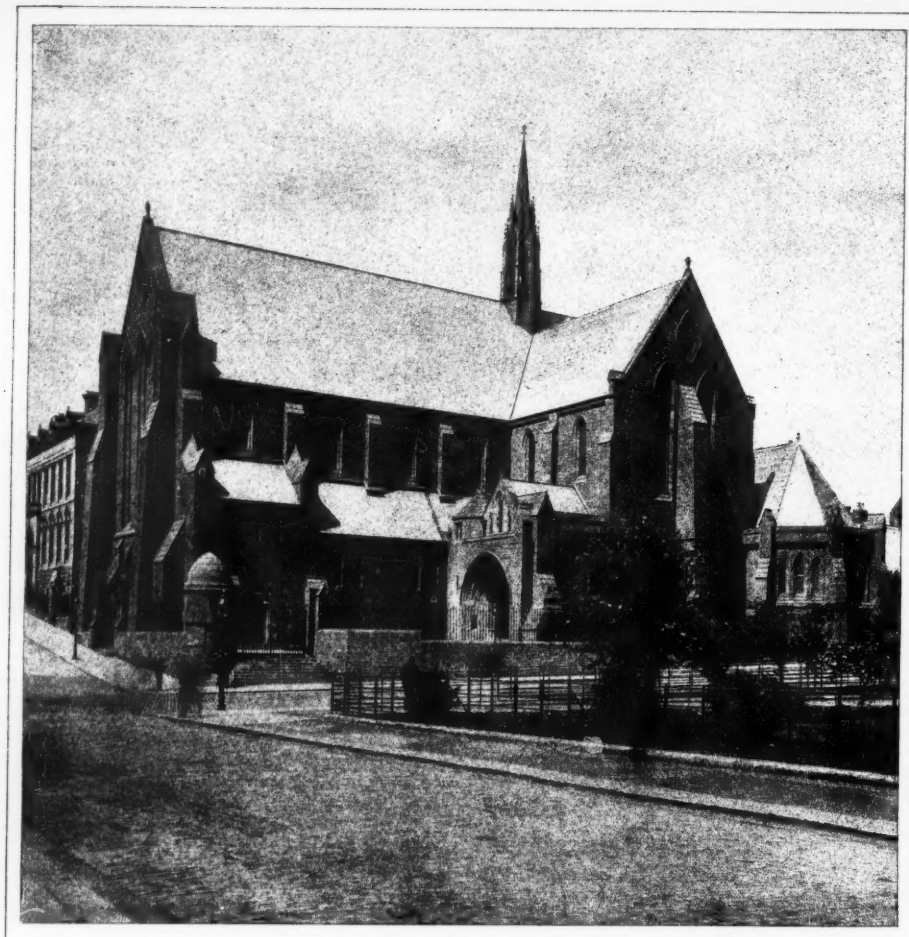

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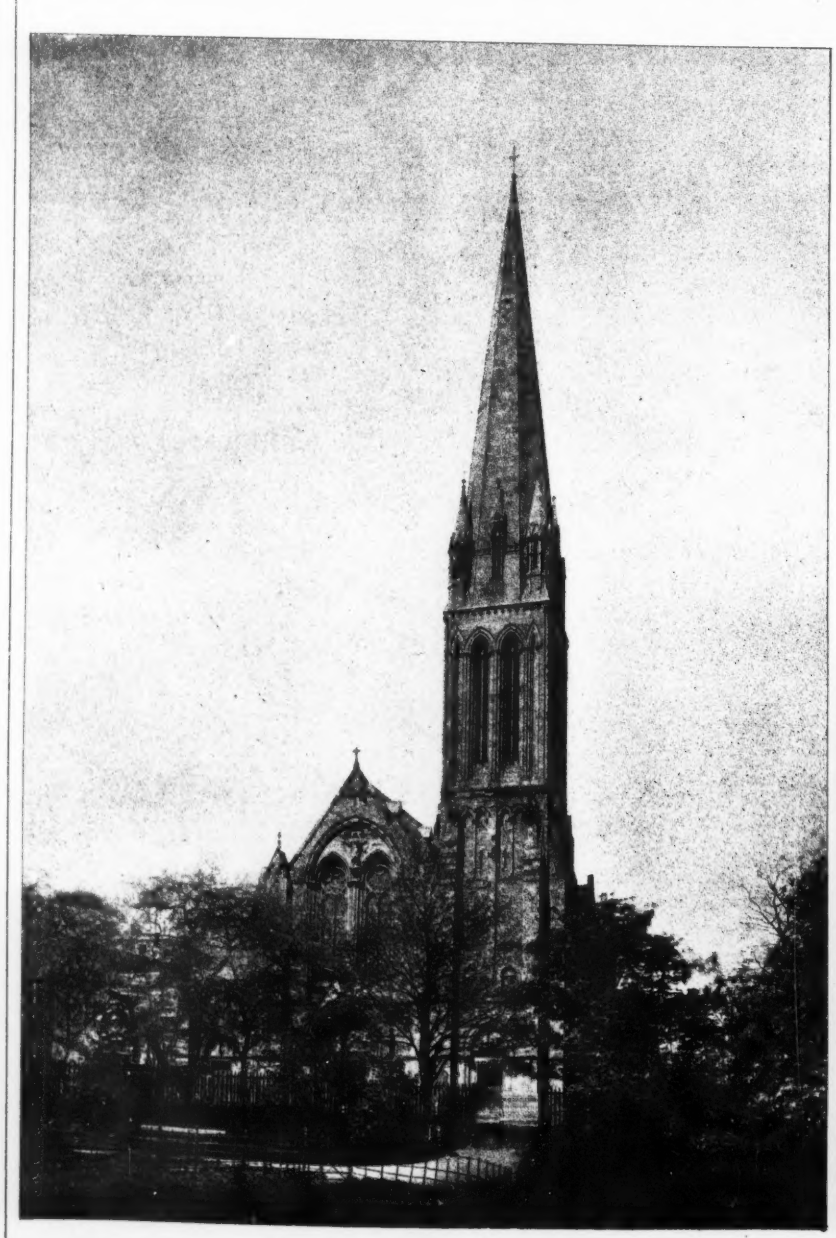

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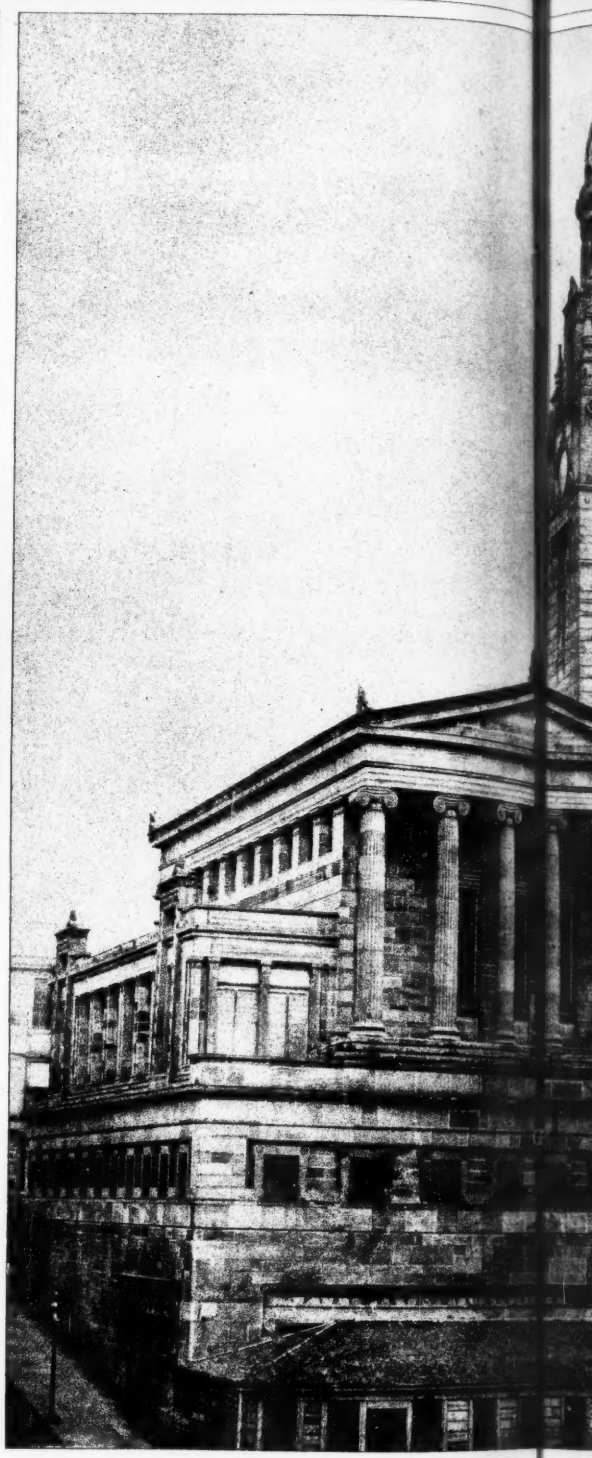

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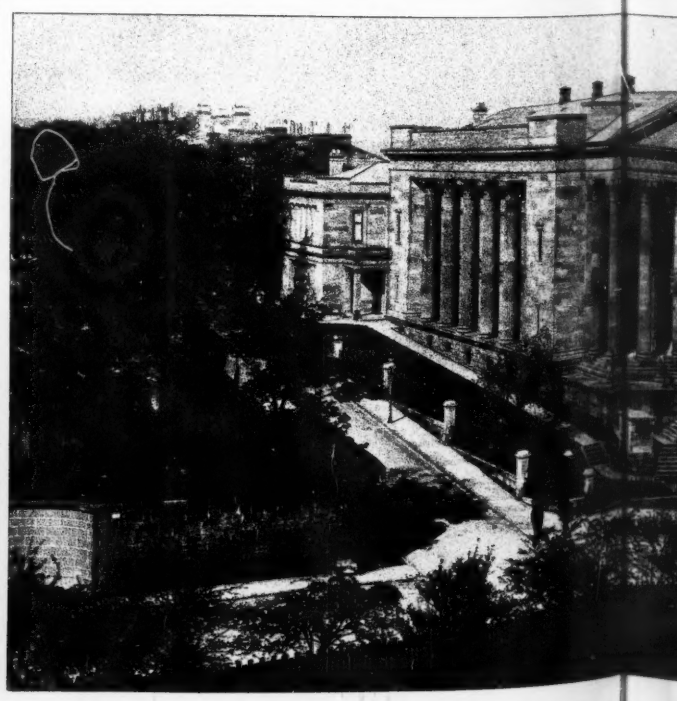

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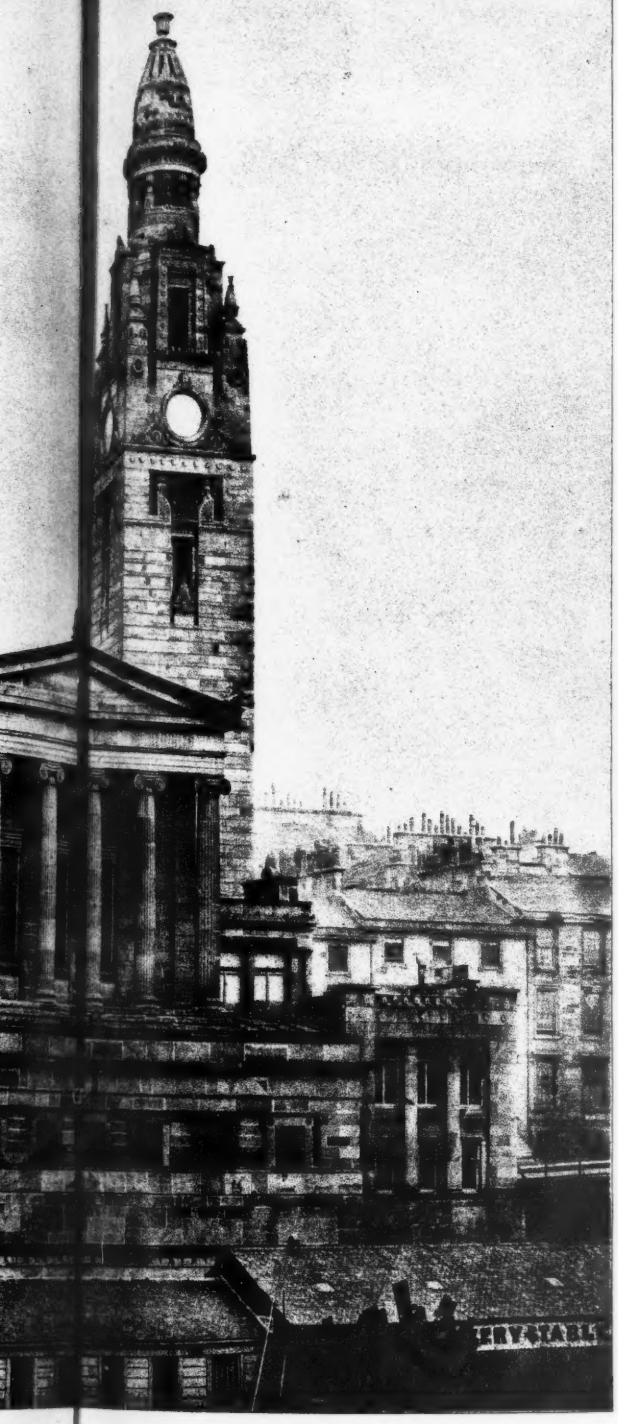

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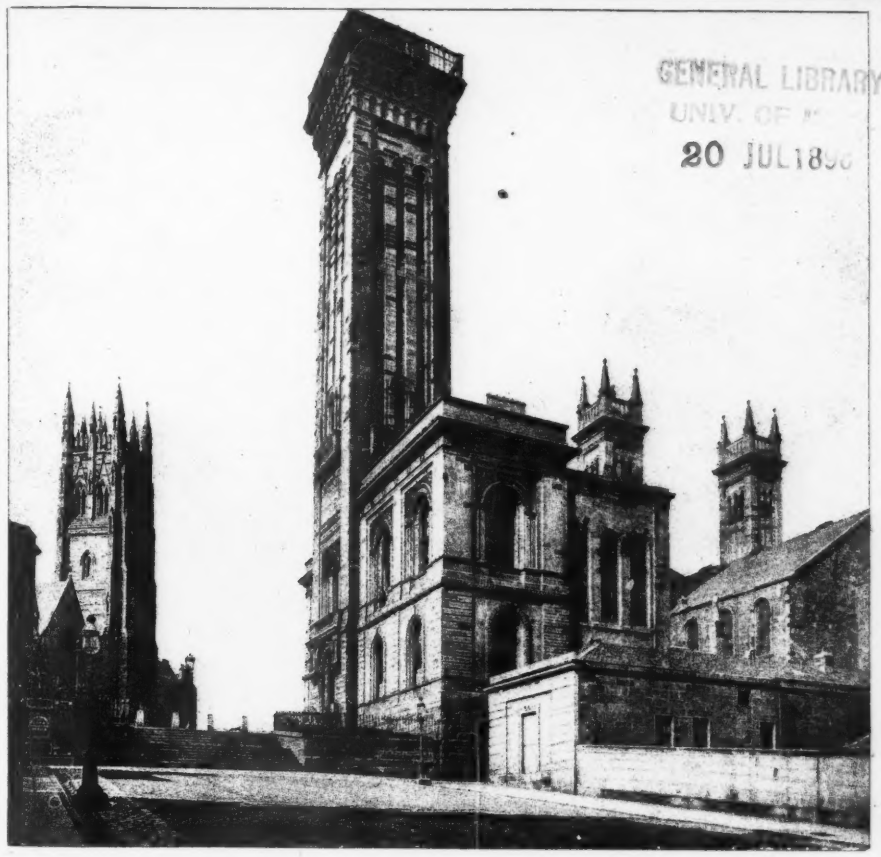

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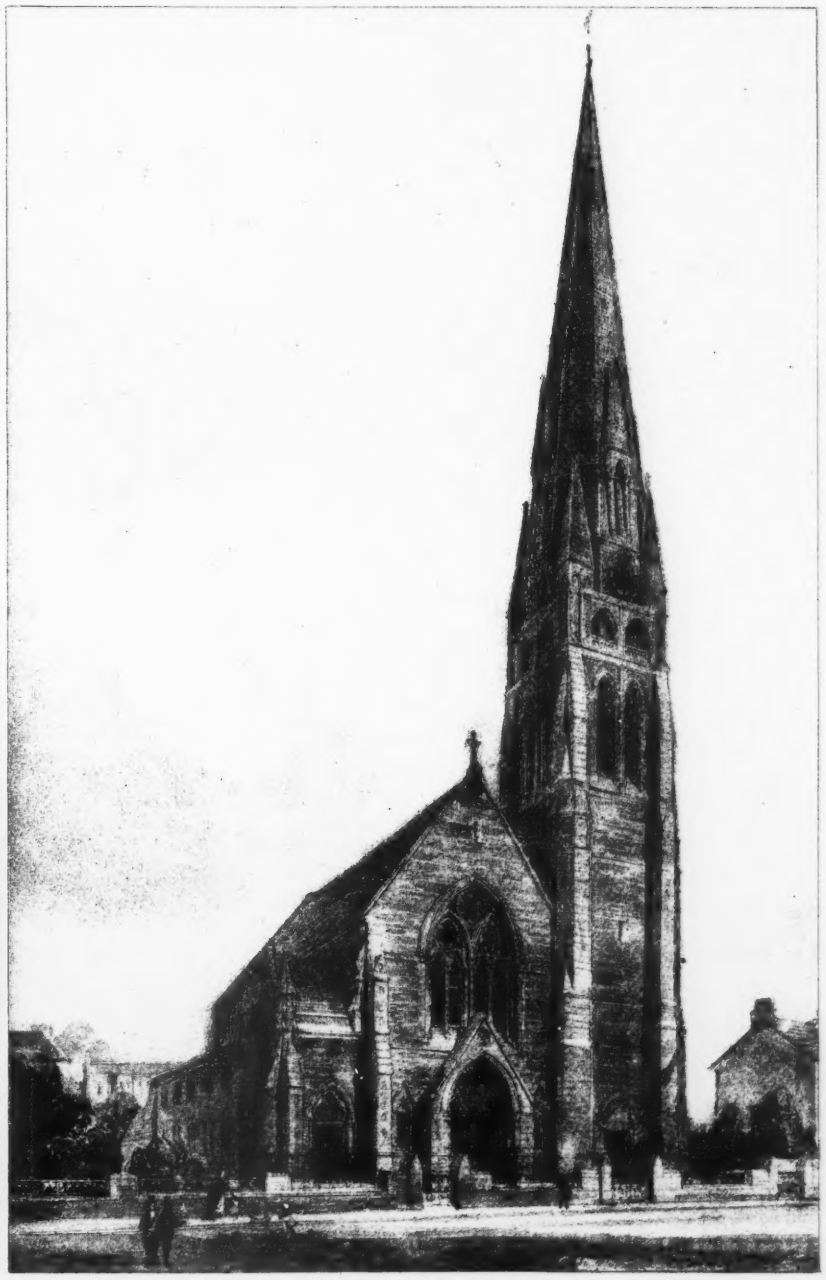

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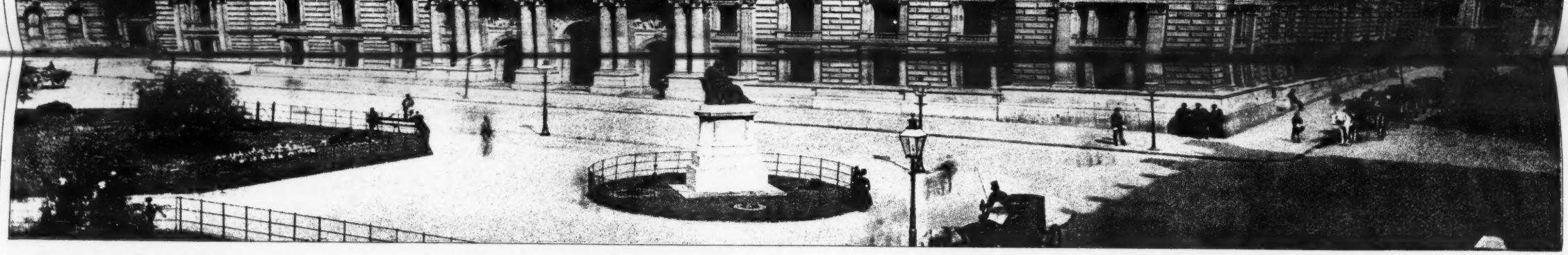

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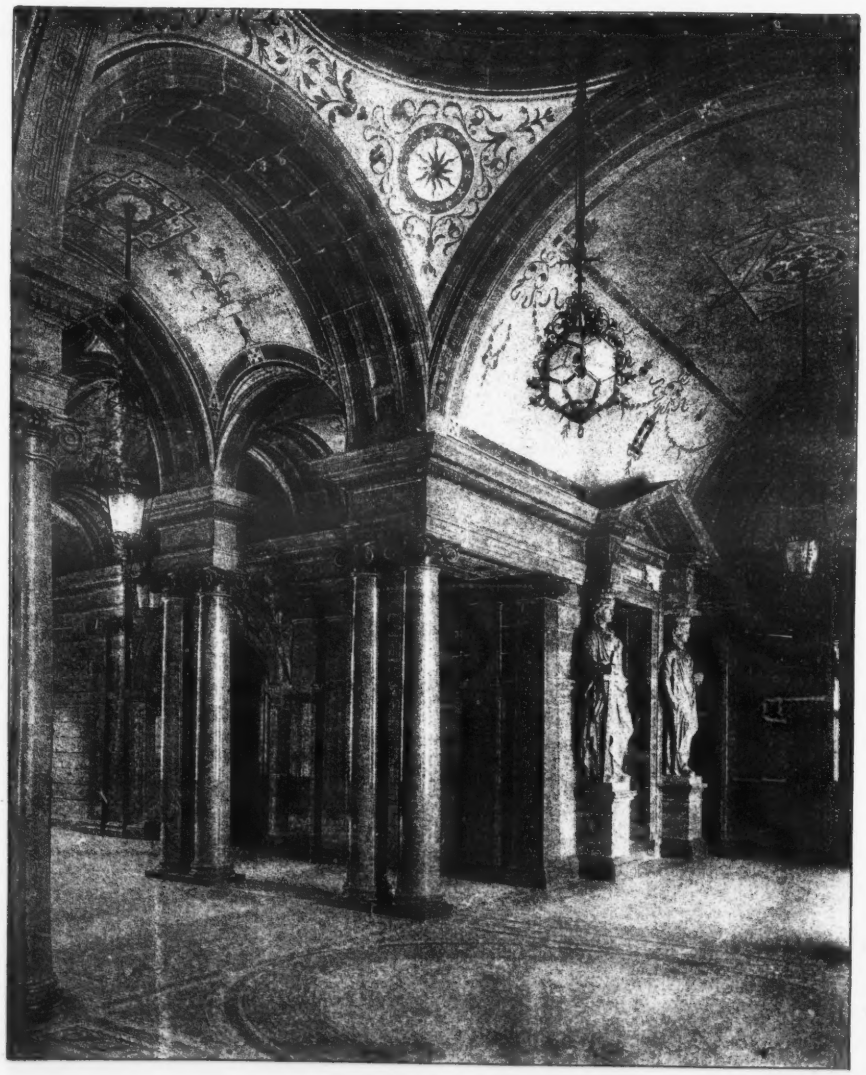

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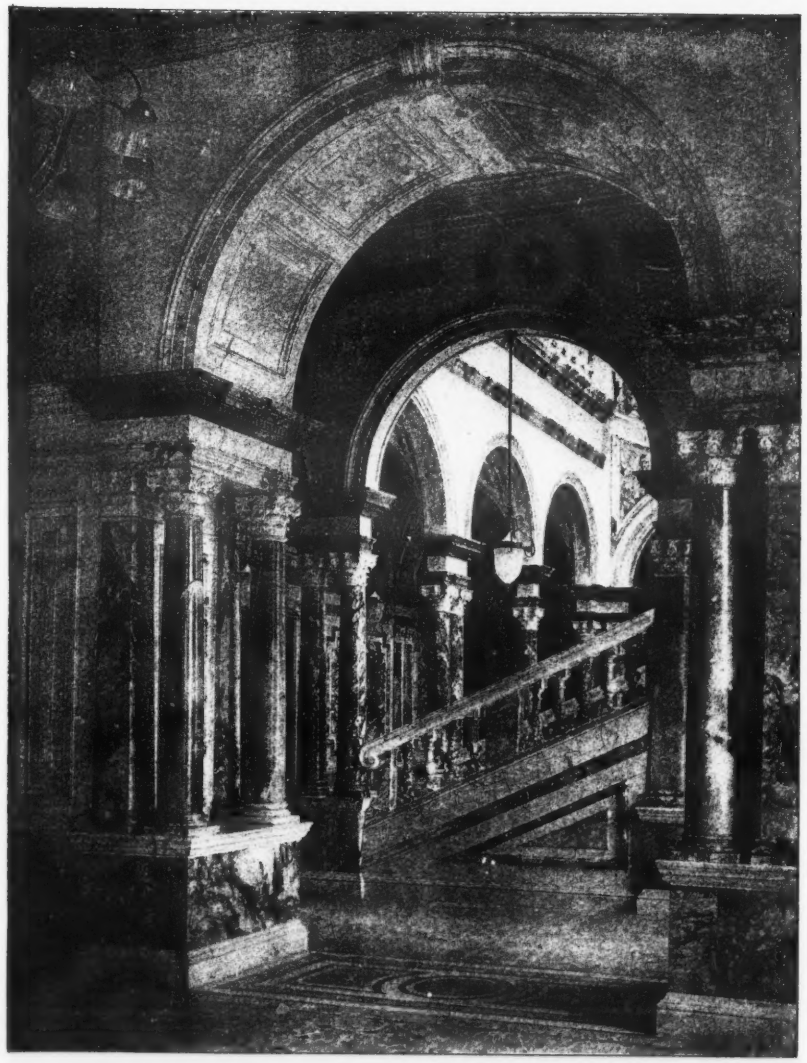

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